10¢ A COPY

# The OIL WEEKLY

October 2, 1925 Volume 39. No. 2

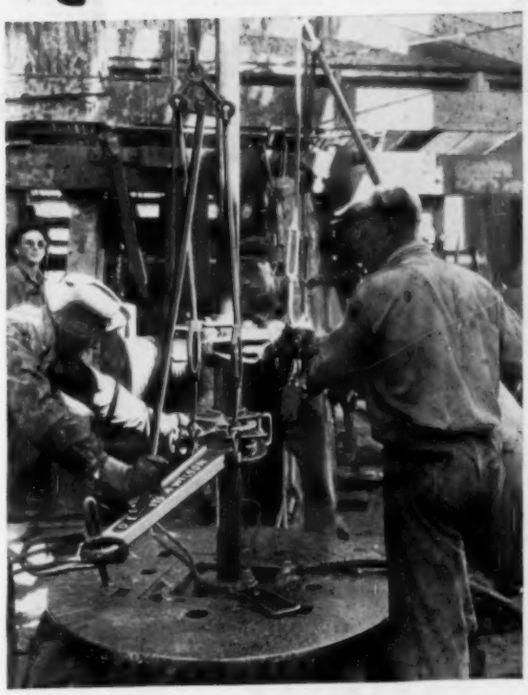
It's a Wilson

## World's Deepest Well

### Uses Wilson Tongs and Elevators

*Down 7495 feet and still going strong*

YOU don't catch the boys taking chances on Miley-Athens No. 6. No Sir! They're playing safe with this deepest of all deep wells. Wilson Spring-Latch 2-step Tongs and Wilson Spring-Latch Elevators are giving them perfect service. Ask the boys in the field — they know.



**Wilson & Willard Mfg. Co.**
MANUFACTURERS

It's a Wilson — Distributed By WILSON OIL TOOLS CORPORATION

Factory and Distributors Office
1301 E. Vernon Ave.
Los Angeles, California, U.S.A.

*Sales Offices:*

Tulsa, Okla., 409 Atlas Life Bldg. — Fort Worth, Texas, 803 Dan Waggoner Bldg. — Houston, Texas 530 West Building

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# 1900–1925

**Users of ACME Drilling and Fishing Tools know of their distinctive qualities, and are daily cashing in on the benefits derived from twenty-five years' study and work of experts spent in perfecting ACME Tools.**

**Get acquainted with our Distributor in your territory. You will be insured of excellent results.**

# ACME FISHING TOOL CO.

Established 1900

## PARKERSBURG, W. VA.

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## EXPORT OFFICE 136 Liberty Street—New York City, N. Y.

*The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 1716 Dallas Ave., Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879*

LUCK and "pull" may have an influence in some things,
but in the selection of Queen Petrolia, never!
Her Majesty must have more than luck to show. She must have merit, quality, excellence.
It's much the same with GASO Pumps. This industry of ours hasn't given us leadership because they liked our name or admired our salesmanship. They continue to buy GASOS simply because GASO performance, endurance and location give them the greatest value for their pumping dollar that they have ever received.
GASO PUMP & BURNER MFG. CO., Tulsa, Okla.
Tulsa visitors are invited to see how GASO Pumps are made. Our plant at 902 E. 1st st. is open for your inspection.
At the Exposition, our address is Booths 6 and 7, Kansas Building.
GASO PUMPS

TRADE **YALE** MARK

# *A Line of*
# STEEL

Steel suspension parts are of vital importance in the life of a chain block, increasing its durability and safety.

Here are the parts of the Yale Ball Bearing Spur-Geared Block which constitute "A Line of Steel."

***Steel Safety Hook and Crosshead***

Both are steel forgings designed to swivel and rock.

***Steel Suspension Plates***

These take the shocks and carry the load at this main point of support.

***Steel Load Sheave***

Accurately shaped pockets to fit the steel links of the load chain, with provision for positive lubrication. Internal bearings, bronze bushed.

***Steel Ball Bearings***

High carbon chrome alloy steel ball bearings, comprising sixteen or more steel balls, support each side of the steel load sheave, where friction is greatest.

***Steel Gear and Pinion***

A one-piece gear cut out from solid steel with Bronze-bushed bearings.

***Steel Driving Pinion***

A one-piece forging of special steel to resist extraordinary twisting and bending. Heat treated and ground to a diameter.

***Steel Load Chains***

Die-formed and electrically welded smoothly finished links. The chain is heat-treated to toughen it and lengthen its life and insure uniform strength throughout.

***Steel Detachable Shackle and Steel Hook***

No welding necessary when renewing or when equipping with extra long chain.

Every notable improvement in Chain Block Construction for the past 50 years has been made by Yale. Yale is the originator.

**The Yale & Towne Manufacturing Co.**

*Stamford, Conn., U. S. A.*

**YALE MADE IS YALE MARKED**

**YALE Hoisting and Conveying Systems**

# Real Wire Lines

## Made for You All the Way From the Ore by Wickwire

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## WICKWIRE SPENCER STEEL COMPANY

41 East Forty-second Street

NEW YORK CITY

# SPANG
# Weldless Drilling Jars

## —Show Up Best In The Very Hardest Lime and Sand

Shale, hard lime and sand surely raise "hobs" with the average welded drilling jar.

But you ought not blame them, they are made that way.

On the other hand, the Spang Weldless Jar is so constructed that it shows to decided advantage when used on wells where such conditions abound.

Intelligent construction and heat-treating of the alloy steel used in the Spang Weldless Jar has resulted in giving it a stronger, more serviceable and useful life.

SPANG Weldless Jars seldom break or fail. They are made from a single piece and carefully inspected and tested for all flaws of manufacture.

If you want a serviceable, economical drilling jar—use the SPANG Weldless.

*Reasons aplenty why you should use the SPANG Weldless*

- Excellent joints
- Greatly increased footage drilled
- Elimination of Jar Fishing jobs
- Reduction of drilling risk
- Three to five times as much service as other jars
- Increased profits

**SPANG**
**Thread Protector**

Protect your Tool Joints with SPANG Thread Protectors. *Like all SPANG Products they guarantee absolute satisfaction and long durable service.*

## Spang and Company
**Butler, Penna.**

**Sold by all Leading Supply Houses everywhere.**

"Traditon has it that centuries ago a Seneca Indian squaw dipped her blanket in the Pennsylvanian stream now known by the suggestive name of Oil Creek, in the vain endeavor to transfer to it the brilliant, iridescent hues of the floating petroleum. Although the blanket did not assume the desired color, it did absorb the oil from the surface of the water, and this the red woman squeezed out and found useful for other purposes."

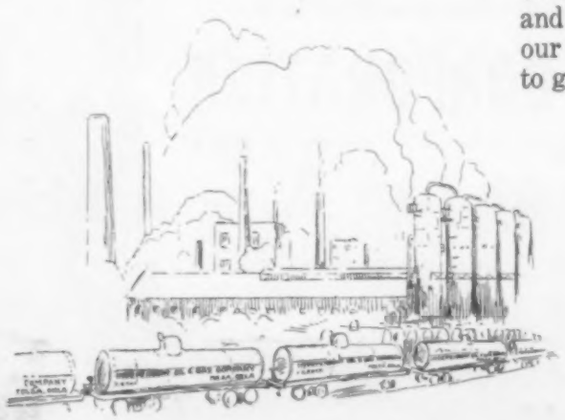
# Tradition—

Much of the prosperity and activity of our country rests largely on the rapid development of the Petroleum Industry within its shores. The INDEPENDENT OIL AND GAS COMPANY has come a long way from the method used by the Indian squaw. It is the same oil but, in methods of production as well as in the uses to which it is devoted it is a widely different article.

We have selected the methods of greatest worth and highest efficiency and discarded all others in our efforts towards producing and refining the finest grade of oils Each improvement that appears in the Industry can be sure of a thorough and intelligent test at our hands in an effort to get the best.

INDEPENDENT PRODUCTS

Gasoline
Naphtha
Gas Oil
Water white Kerosene
Wax distillate
Cylinder Stock
Fuel Oil



**INDEPENDENT**
**OIL & GAS COMPANY**
*Tulsa, Okla.*

Approved for Field and Refinery Service

# Stanley

## Solid Woven Cotton Belting

**The Oil Man's Belt**
**For the Oil Man's Job**

*—and no one knows this better than the fellow who has "used 'em all."*

*Say "STANLEY" at the right time in the right place to the right party—and get the belt that is right.*

*Made in single, double and triple all widths. No warehouse deterioration—no ply separation—least slip of any belt (proven in Mellon Institute tests). Minimum stretch.*

*Now sold much to buyers who can only judge by cost price—but it's preferred by most of the rest.*

*A fellow said recently, "Something is wrong with this drive. Even a 'STANLEY' busted at the clamp." He knew belts.*

**For Demonstration: 111 Texas Building**

**For Service: Write, 'phone or wire the stocks below**

## STANLEY BELTING CORPORATION

**CHICAGO** T. R. Bartlett, P. O. Box 909, Tulsa Phone Dial 2-7283 **NEW YORK**

On permanent display at Tulsa Industrial Exhibition

W. R. Tucker, 5311 Richard Ave., Dallas, Texas. Phone H. 6525

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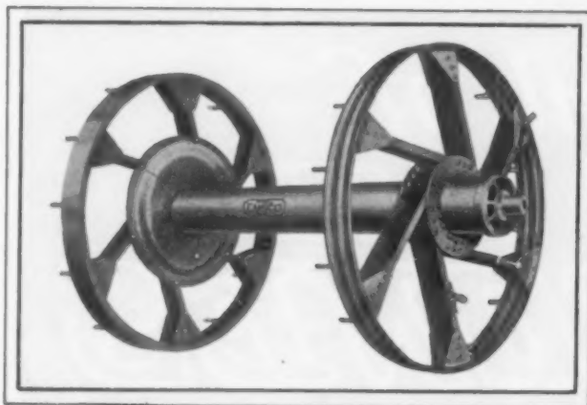
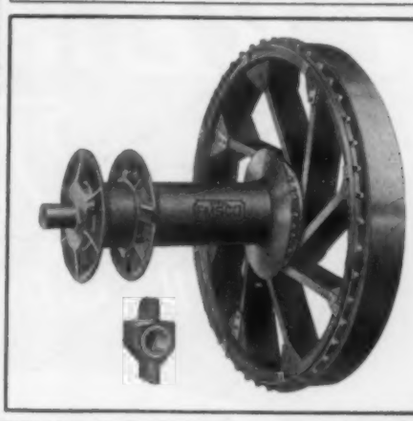
STANLEY BELTING MADE IN SCOTLAND



BULL WHEEL

STEEL EMSCO PRODUCTS



CALF WHEEL

BAND WHEEL

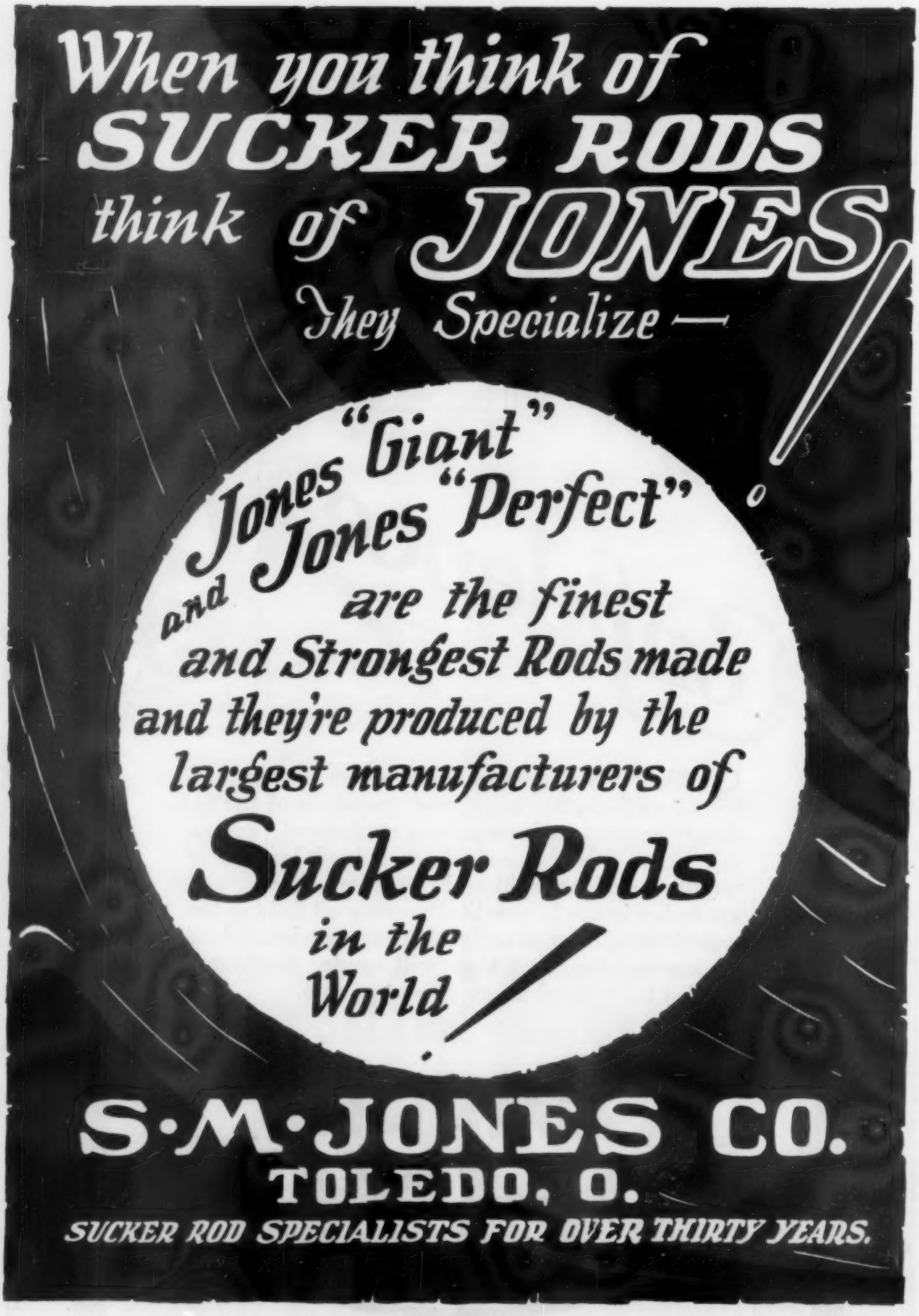
# Confidence!

STEEL Wheel performance, under all kinds of conditions, has convinced operators of the ultimate economy of permanent equipment. Emsco All Steel Wheels are acknowledged leaders in quality, workmanship and intelligent design, and are today in use in practically every oil field in the world, rendering a truly efficient service. And remember, too, that they will render that same service for a good many years to come.

PHONE ------- DELAWARE - 2145

EMSCO STEEL-PRODUCTS-COMPANY

6911 S. ALAMEDA ST. LOS ANGELES - CALIF.




*Say you saw it in The OIL WEEKLY*

# ECONOMY—

It is not the man who spends the least amount of money, but rather the man who spends his money wisely, who is practicing true Economy.

O. K. Super Oil-Well Cement obtains practically its full strength in (7) hours and is not affected by submersion in salt water.

---

**OK CEMENT**

**Oklahoma Portland Cement Company**

**Sales Offices:**

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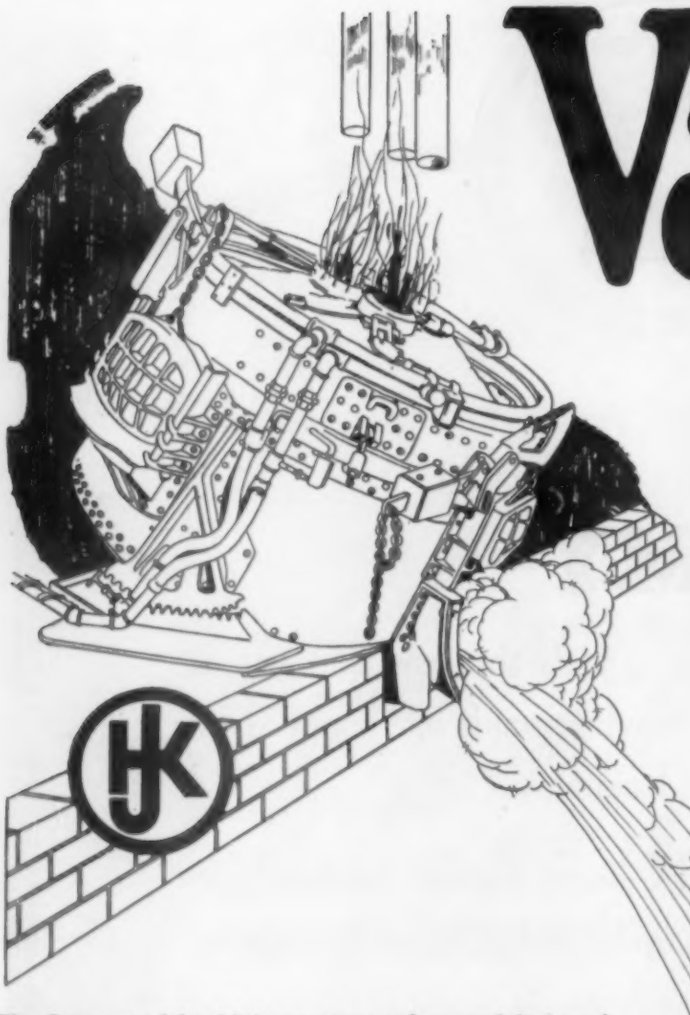


# Valves OF Electric Steel

The finest steel for high pressure valves and fittings is born in the reducing atmosphere of the electric furnace. The molten stream that flows from the electric furnace fills every tiny space in the mould, resulting in clean, sharp castings of close grain, free from occluded gases and particularly suitable for the careful annealing that follows.

Power Plant Piping, Coils and Headers of all kinds made at our ETNA PLANT, Sharpsburg, Pa. Write for booklet.

Kelly and Jones Steel Valves are made for hot oil working pressures of 250, 400, 600 and 900 pounds; for cold water, oil or gas working pressures of 500, 750, 1000, 1500 and up to 3000 pounds.

*Catalog "S" sent free upon request*

## THE KELLY & JONES CO.

*Manufacturers of*

Dependable Valves & Fittings for all Pressures and Purposes

WORKS – GREENSBURG, PENNA.

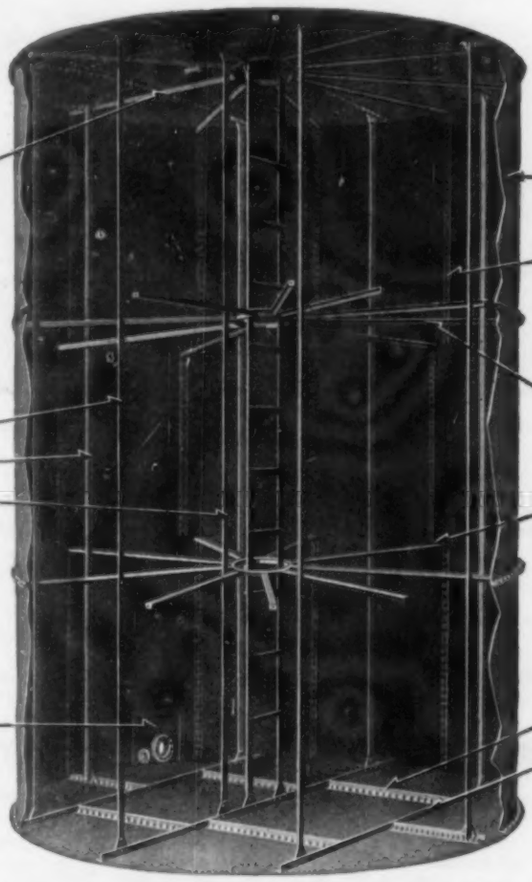
BRANCH STORES AND OFFICES: NEW YORK - PITTSBURGH - CHICAGO - CINCINNATI - BUFFALO - ST. LOUIS - SAN FRANCISCO

*Say you saw it in The OIL WEEKLY*

# A Better Flow Tank–
## *and why it is better*

PRODUCING companies like the way the Parkersburg three-ring Flow Tank withstands the excessive vibrations from heavy flowing wells — ask any Wortham operator.

Parkersburg filling manifolds, conductors, gauge hole covers, pressure-vacuum relief gauges, flow tank valves, and vacuum breakers can be supplied according to customer's requirements.


Deck rafters extend from manhole ring on inside ladder to each side sheet seam, bracing side sheets and supporting the deck.
Sides, bottom and deck are 12 gauge copper-bearing blue annealed steel sheets. Heavy steel channels back each side sheet seam.
Bottom and deck joined firmly by vertical ties, bolted to angles inside each bottom and deck seam.
Intermediate chime braces extend from ring on inside ladder to each side sheet seam.
Cleanout opening 24" x 24", flush with bottom. Cover provided with 6" pipe connection and 2" water connection.
Steel angles back each bottom seam on inside of tank — steel channels on the outside.

You can get further details on Parkersburg Flow Tanks and other field equipment from our nearest representative — or direct from us

## The PARKERSBURG RIG & REEL COMPANY

***Main Office and Works,*** Parkersburg, W. Va. ***New York Office,*** 30 Church St.

California Representatives, BUCK & STODDARD
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**ARKANSAS**
*El Dorado
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**COLORADO**
Denver

*District Offices ‡Frick-Reid Supply Co.

*Say you saw it in The OIL WEEKLY*

Photograph and article from National Petroleum News, June 17th, 1925, describing a recent refinery fire.

# —yet one tank was saved

*—the only one Oceco equipped in the exposed area*

...tank with insulated roof and equipped with an Oceco vent valve and flame arrestor to keep the fire from flashing back into the tank. This escaped with no damage but burned off paint.

...became a blow torch as the gases generated inside the still by the fierce heat, rushed out to be ignited by the blaze.

A dozen or so tanks holding various kinds of oils, which stood in the path of the blazing oil, ignited and collapsed and their contents was added to the flood of fire. The burnng gasoline

This tank, full of gasoline. stood within 10 feet of one of the agitators that burned. It was heated to a tremendous temperature, of course, by the blaze. As the vapors expanded within, the safety vent valve opened and the escaping vapor blazed to the sky but the tank did not collapse or even buckle.

A contract for ... plant wa...

A LESSON from the fire, as expressed by the General Manager: "Install gas-tight tanks with proper vents and flame arrestors."

Again, Oceco Equipment *proved* its merit under the most severe conditions.

THE OIL CONSERVATION ENGINEERING CO.

*Headquarters for Tank Equipment*

877 Addison Road, Cleveland, Ohio

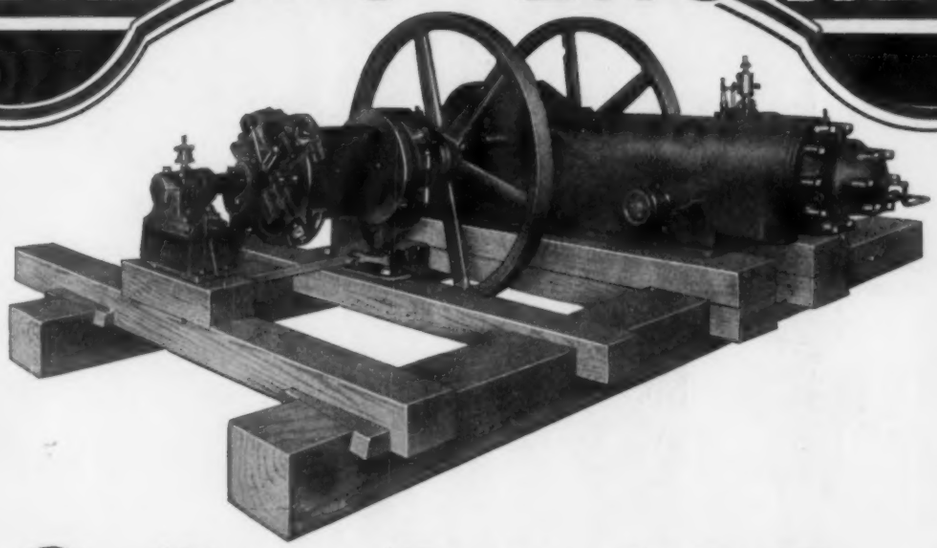
25 Broadway . . . . . New York
325 Iowa Building . . . . . Tulsa, Okla.
O-S Building . . . . . Casper, Wyo.
318 East 12th Street . . Los Angeles, Cal.
440 Howard Street . . San Francisco, Cal.
W. K. Henderson Co. . . Shreveport, La.
Beaumont Export & Import Co., Beaumont, Texas, and Tampico, Mexico.

*See the complete line of Oceco Equipment at the Tulsa Exposition, Texas Building.*

**OIL TANK OCECO EQUIPMENT**

**SAVES EVAPORATION AND PREVENTS FIRE**

# FRANKLIN VALVELESS DRILLING ENGINES



## The Wonder Engine for Drilling

Franklin Valveless Fuel Oil and Gas Drilling Engines have demonstrated that they are

THE WONDER ENGINES FOR DRILLING

Average fuel consumption for Drilling with Franklin Valveless Oil Drilling Engine for twenty-four hours is less than forty gallons.

*Bulletins on Request*

*PRICES*

FUEL OR CRUDE OIL DRILLING ENGINES
complete with Self-oiling Reversible Drilling Clutch, Blower, Circulating Pump and Fuel Tank.

SIZES FOR MID-CONTINENT AND WESTERN SERVICE
$3150.00 and $3700.00 f. o. b. Factory

SIZES FOR EASTERN SERVICE
$2600.00 and $3150.00 f. o. b. Factory

GAS DRILLING ENGINES
complete with Self-Oiling Reversible Drilling Clutch, Blower and Circulating Pump.

SIZES FOR MID-CONTINENT AND WESTERN SERVICE
$1725.00 and $2150.00 f. o. b. Factory

SIZES FOR EASTERN SERVICE
$1450.00 and $1725.00 f. o. b. Factory

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*46 Years of Exclusive, Continuous Oil Field Service.*

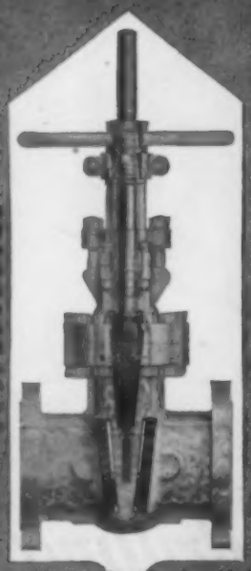
# FRANKLIN VALVELESS ENGINE COMPANY

*Established 1879*

# The Disc can't wobble—

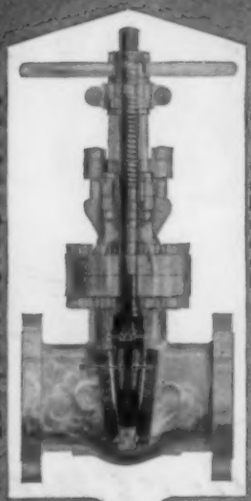
## IN THE NEW DESIGNS OF LUNKENHEIMER

## IRON BODY GATE VALVES



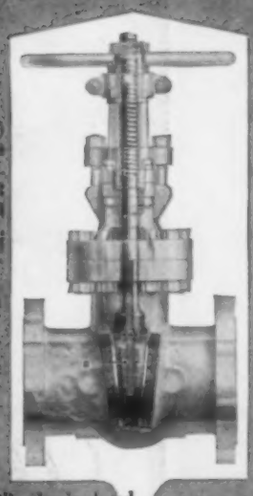
*Valve Wide Open*

Machined Guides are used in all sizes of Lunkenheimer Gate Valves, including the Standard as well as the Heavy and Extra Heavy Patterns. The ribs (A) in body and grooves (B) in disc are accurately machined, and are fully engaged even with valve wide open.



*Valve Almost Closed*

At this point the tendency for the disc to wobble increases. No wobbling in the Lunkenheimer design—clearance between ribs (A) and grooves (B) is so small and accurately gauged that pressure from either side cannot force disc against opposite seat. Thrust of disc is always against guides and not against seating surfaces. Disc cannot drag on seats or touch them until valve is closed.



*Valve Closes Tightly*

And the ribs (A) and grooves (B) are still fully engaged. Disc rides straight and true to its seat and closes instantly, completely cutting off the flow.

Above views illustrate how disc is guided in its travel, and show why disc cannot drag on seats or touch them until valve is closed.

### *Other Outstanding Features*

*Face to Face Dimensions — Standard Trade Practice.*

*Heavy Bronze Seat Rings.* Rings seat against solid walls of valve body—do not depend on a small flange to effect a joint with body.

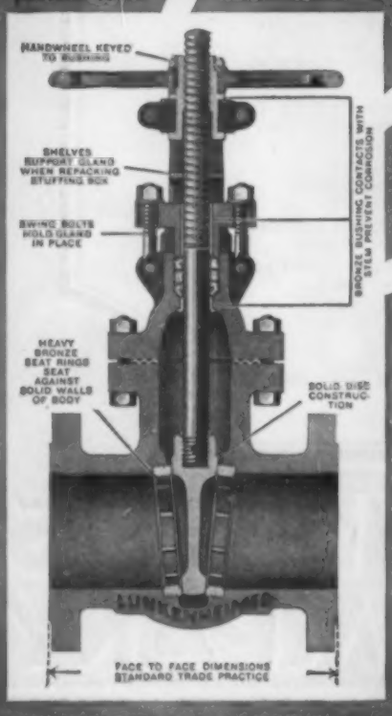
*Solid Bronze Disc* in sizes up to 6-inch; iron disc with bronze faces in 7-inch and larger sizes.

*Bronze Bushing Contacts with Stem* through yoke, gland and stuffing box prevent corrodible contact with iron parts of valve.

*Swing Bolts* hold gland in place; entire removal of nuts unnecessary to raise gland.

*Two Shelves* cast within yoke arms support gland when repacking stuffing box.

*Interchangeability* in the highest degree has been attained. All parts are renewable, including the seats and disc. Any replacement part will be exactly the same size as that which is to be renewed.


HANDWHEEL KEYED TO BUSHING
SHELVES SUPPORT GLAND WHEN REPACKING STUFFING BOX
SWING BOLTS HOLD GLAND IN PLACE
BRONZE BUSHING CONTACTS WITH STEM PREVENT CORROSION
HEAVY BRONZE SEAT RINGS SEAT AGAINST SOLID WALLS OF BODY
SOLID DISC CONSTRUCTION
LUNKENHEIMER
FACE TO FACE DIMENSIONS STANDARD TRADE PRACTICE

Lunkenheimer Iron Body Gate Valves are made in the Standard Pattern, 125 lb. W.S.P. 2 to 24 in.; Heavy, 175 lb. W.S.P. 2 to 16 in.; Extra Heavy, 250 lb. W.S.P. 1½ to 18 in.

Correct design, careful selection of materials and skilled workmanship combine to produce this, the highest development in gate valve construction.

Distributors in all commercial centers carry Lunkenheimer products in stock and render prompt service.

**THE LUNKENHEIMER CO.**

"QUALITY"

CINCINNATI, OHIO, U. S. A.

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EXPORT DEPT. 129-135 LAFAYETTE ST., NEW YORK

Fill in and mail the coupon for a copy of the new Gate Valve Booklet. It will be sent without obligation.

THE LUNKENHEIMER CO. P. O. Box 676 Cincinnati, Ohio.

Please send me without obligation, copy of the new Gate Valve Booklet. J K

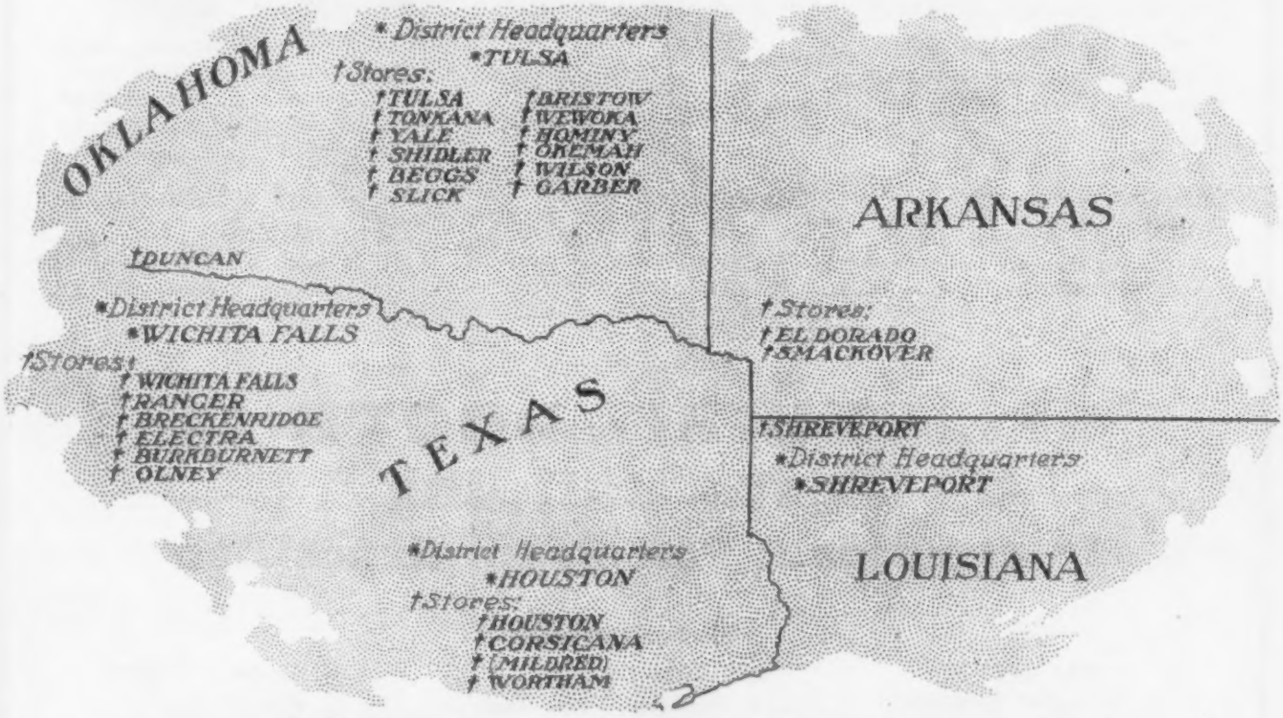
Name.....

Firm.....

Address.....

6-38-90-4

# 4 District Headquarters and 25 REPUBLIC SUPPLY STORES




## *Always ready to serve you with Complete Stocks, Oil and Gas Well Supplies, Both Rotary and Cable, including*

Republic Iron & Steel Co.'s Tubing, Casing, Drive and Line Pipe.

Standard Seamless Tube Co.'s Seamless Upset Rotary Drill Pipe and Casing.

American Well & Prospecting Co.'s "Gumbo Buster" Rotary Equipment.

Jones' Acme Sucker Rods, and Gas Engines.

American Steel & Wire Co.'s and Broderick & Bascom's Wire Rope.

Hughes Tool Co.'s Hughes Rock Bits, Hughes Disc Bits, and Hughes "Acme" Tool Joints.

Bovaird & Seyfang Oil Field Boilers.

Wall (Walk Laid) Bull Ropes and Manila Cables.

Rhodes Master Packing.

## —REPUBLIC SUPPLY CO—

*Say you saw it in The OIL WEEKLY*

# SIX OIL FIELD QUALITY PRODUCTS

### "Kleen-a-Well"
Generates 170 degrees of heat. Melts paraffine, asphaltum, gypsum or salt, increases production. Cleans tubing and rods.

### "Konset"
The original Cement Accelerator. Sets cement quick and increases its strength. Hardens and water-proofs, will set in oil, gas, acid, or salt water.

### Deflect-O-Lite Aluminum Paint
Covers more surface, lasts twice as long. Moisture proof, heat deflector, cuts down evaporation, holds up the gravity of oil in storage tanks.

### Boiler Compound Solrite
Solvent for treating boiler feed water. Prevents corrosion.

### Rustcotine
The rust preventive for iron and steel oil field equipment. A chemical compound, will not harden or gum, applied cold in any weather.

### Kontite Portland Cement Paint
Mixed with water instead of oil, cheaper, better, in all colors.

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**Write for booklet and prices today**

**For sale in every oil field in the world**

# Reading's "Business" in the Oil Fields

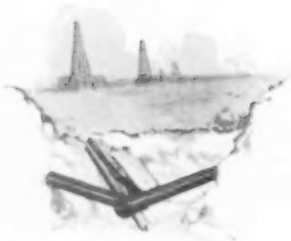
IF oil field work demanded no more service of pipe than is found in the ordinary variety "Reading" would have little reason for offering its higher-priced wares to this great industry.

But when operators, from Pennsylvania to the Pacific, discovered the great need for pipe that could stand the vibration of drilling and resist corrosion, too, "Reading" saw its "business" in the oil fields. And now, after over sixty years of active participation in the industry's development, Reading Genuine Wrought Iron Pipe is regarded as a ***necessity*** by companies who have experienced its unfailing service and economical long life.

# READING PIPE

## GENUINE WROUGHT IRON

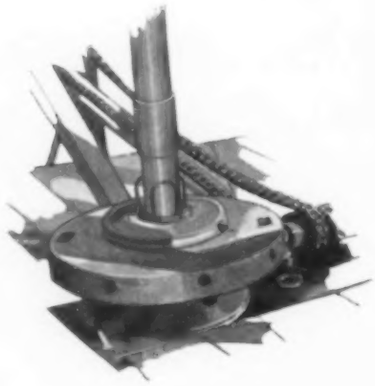
## *Resists Corrosion*



"Reading's" greatest value to you is its proven ability to resist corrosion two to three times longer than steel pipe. Safeguard your lines with "Reading"—especially at the most susceptible places—over salt marshes, alkali beds and under rivers. "Reading" will keep the water out and the oil in for a generation.

## *Endures Vibration*

Unlike steel, Reading Genuine Wrought Iron is made to resist crystallization to the limit. If you've figured up what it costs to drop a string of tubing you know that it's much cheaper to buy Reading Genuine Wrought Iron Tubing.



## *Perfectly Straight*

Oil field requirements have made straight tubing an absolute necessity. "Reading" was among the first to insure such straightness through special machinery, rigid inspection, and careful method of car-loading. Reading Genuine Wrought Iron Pipe leaves the factory ***straight***, and arrives at your wells in the same satisfactory condition.

# READING PIPE

## GENUINE WROUGHT IRON

## *Doubly Welded*

The fluxing qualities of the slag in Wrought Iron are responsible for a closer knitting of the metal at the weld than is possible with steel. In all crushing tests we have found the weld to be stronger than the walls of the pipe. Combining this great strength with its remarkable rust-resisting qualities makes "Reading" the ideal pipe for drilling, transportation or refining service.

## *Cuts and Threads Quicker*

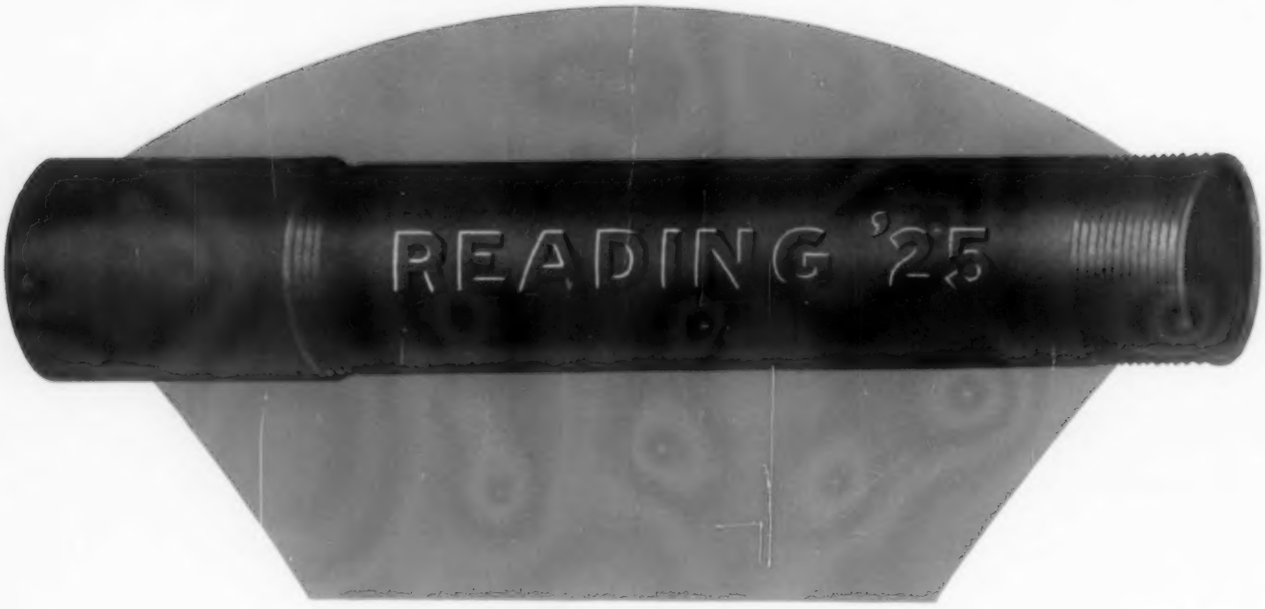
Although conclusive tests have shown that Reading Pipe may be made up and broken out at least seventeen times without injury to the threads on either pipe or couplings, it is good to know how quickly and accurately Genuine Wrought Iron Pipe can be threaded. This advantage saves much time and money in distant locations. Ask any "Reading" user.

## *A Genuine Economy*

On your next location, or when replacing corroded steel pipe, it will pay you to insist on Reading Genuine Wrought Iron Pipe. The slightly higher *price* you pay will buy you the lowest *cost* pipe in the world.

# READING PIPE

## GENUINE WROUGHT IRON




If you are wise enough to specify "Reading" be careful enough to see that you get what you order. The name "Reading" and the year of manufacture are rolled in every length.

READING IRON COMPANY
READING, PA.

Distributed by

OIL WELL SUPPLY COMPANY
Inquire at any of their 100 Branches

# READING PIPE

## GENUINE WROUGHT IRON

# Zero Hour Electric Bomb

## Eliminates Failures and Disasters In Oil Well Shooting

### Jacks, Bumpers and Wire Squibs are—

### Dangerous

Premature explosion of Jacks and Bumpers are frequent occurrences. Sometimes the damage is only temporary, such as a bursted casing; but many instances are recorded where valuable producing wells have been permanently ruined by Jacks or Bumpers. The Wire Squib is safer, but it invariably bridges. Damage often occurs from attempts to remove the bridge. EVERY shot attempted with Jack, Bumper or Wire Squib involves a possibility of damage.

### Uncertain

It's a common occurrence to drop two, three or more Jacks into a hole before getting one close enough to the main charge to put it off. Sometimes it's entirely impossible to put off a shot with a Jack. The Wire Squib is also uncertain. If the wire breaks or is short-circuited the Squib has to be removed, a new run of wire attached, the hole cleaned out and the Squib again lowered.

### Costly

It costs real money for wire for an Electric Squib. If the wire breaks or is short-circuited your investment is doubled. Jacks and Bumpers are often costly. Production lost through failure to perform, damage resulting from premature explosion—ALL are a part of cost.

*"Our loss during the past year from using antiquated detonators would pay for all the Zero Hour Electric Bombs we could use during the next five years."*

*Statement of an Executive of One of the Largest Mid-Continent Producing Companies.*

### Zero Hour Electric Bomb Is—

### Safe

Zero Hour Electric Bomb is scientifically designed, and manufactured by skilled workmen. It is protected against even remote possibilities of premature or accidental discharge. In over 900 Zero Hour Electric Bombs placed during the past year there has never been a dollar's worth of damage to well or casing as a result of its use.

### Dependable

Zero Hour Electric Bomb has never failed to put off the shot. It has performed safely, surely and satisfactorily in all kinds of holes—Shallow holes, deep holes—straight holes, crooked holes—wet holes, dry holes—gassy holes, still holes—open holes, partly plugged holes. In over 900 cases it has put off the shot, on the average within two minutes of the time intended.

### Economical

Because Zero Hour Electric Bomb is BOTH safe and dependable it is, therefore, economical. Economy depends upon results obtained. Zero Hour Electric Bomb is shattered into small bits on discharge—no bridge. Its use permits the well to clean itself quickly and be placed on production with little loss—often within ten minutes after discharge.

*" . . .We are much pleased with the Zero Hour time bomb . . .We believe your system (Bomb) to be a practical and efficient method of doing the work."*

*Extract from Letter of Ralph C. Riley, Vice-Pres. J. A. Hull Company.*

**Zero Hour Electric Bomb**
**BOOTH 34**
West Virginia Building
Tulsa Exposition

## Zero Hour Torpedo Company

General Office
Casper, Wyo.
P. O. Box 2100

Tulsa, Okla.,
710 Cosden Bldg.
2-9612 3-1775

Eureka, Kans.,
309 S. Main St.
Phone 774

# A productive dollar earner

***a machine that returns definite dollar dividends on the money you invest by saving time and sharply cutting labor and replacement costs.***

THE money you put into a new Williams Rapiduction Pipe Threader is not an expense—but *a positive profit-earner—a productive investment* that pays you *continuous* dollar dividends by turning out more and better threads per hour of operation—by slashing labor costs in half and by saving you real dollars in replacement costs.

By actual time study test this new Rapiduction machine has demonstrated its ability to thread and cut three 6" threads in 3 minutes and 5 seconds as against 13 minutes required in the same operation with old type machine. That means *profitable production* with sharply reduced labor costs.

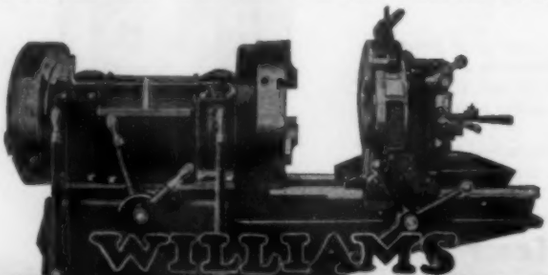
Add to these productive savings the fact that complete set of dies covering range from 2½ to 6" for Rapiduction Die Head cost only $14.00 against an outlay of $120.00 for old type die. For range from 1½" to 2" $14.00 against $30.00. A striking "first cost" saving. And you save on replacements: for one snipped die in the new Rapiduction Machine can be replaced in 10 seconds at cost of $2.00 as compared with the necessity of replacing complete set of dies in old type machine with costly delays and high dollar costs.

***Let us tell you definitely how you can profit with the new Williams Rapiduction Power Pipe Machine.***

WILLIAMS TOOL CORPORATION, ERIE, PA.

## SPEED!

The new Rapiduction Power Pipe Machine does three times the amount of work of the old type in the same time. An example: You can pick up a 2½" pipe, chuck, set, thread, cut and ream—then change over to say a 4" pipe, pick up pipe, chuck, set, thread, cut and ream in 2 minutes and 20 seconds as against a total of 7 minutes and 6 seconds in the old type machine.



WILLIAMS
# RAPIDUCTION
POWER PIPE MACHINE

# Here's Hoping

Way up in the Northlands, a legend has it, is a deep lake. This lake has the power to reflect the future of those who look into its unfathomable depths.

Many men have made the long pilgrimage to learn what the coming twelvemonth held in store for them. But the story goes that as they would near the enchanted spot they would hesitate and turn back. No man ever peered into the waters.

The lack of knowing what is ahead of the oil industry between now and the next Exposition is the greatest thing the coming year affords. The joy of striving would be changed to a monotonous routine of duty if our work was limited to accepting the rewards we knew were ours. Without the hope of an unexpected turn, days would seem weeks and weeks would become months as we lived the charted course.

Maybe there's oil in that outside forty and maybe there isn't. Luck to you. Maybe all your rigs will be running and maybe they won't. Here's to a busy year.

Maybe there will be pay-offs and maybe there won't. Keep trying. Maybe we'll get a lot of orders from you this year and maybe we won't. Here's hoping.

*Service With a Smile*

## Hercules Supply Company

**J. T. McCarthy, Jr.**

**DALLAS**

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**A DEPENDABLE SOURCE FOR ALL KINDS OF OIL FIELD EQUIPMENT**

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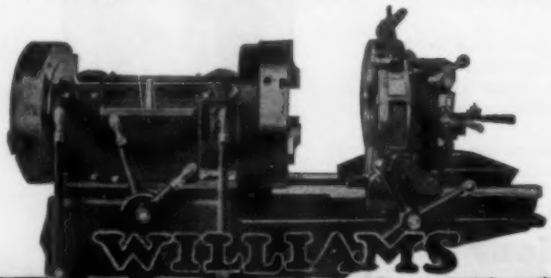

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POWER PIPE MACHINE

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**A DEPENDABLE SOURCE FOR ALL KINDS OF OIL FIELD EQUIPMENT**

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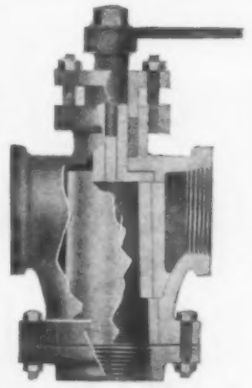

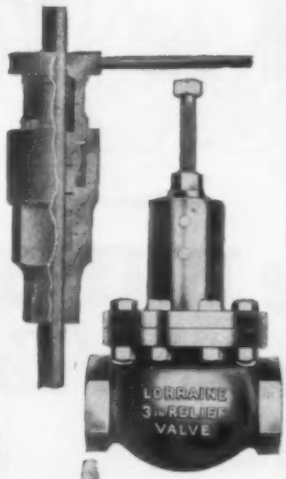

# Lorraine Built

## Vitally Essential to Efficient, Profitable Operations

"Lorraine" products are not specialties nor fads. They are specialized staples—vitally essential to maximum efficiency which results in profitable oil field operations.

1. Lorraine Automatic Gas and Oil Separators: It is a significant fact that those companies who use "Lorraine" Automatic Gas and Oil Separators exclusively are the biggest dividend payers. The "Lorraine" has proved its superiority over every type of gas trap in actual service. It has replaced more traps than all the rest put together. Don't buy blindly. Let us prove "Lorraine" supremacy in actual service. Write for special proposition.

2. "Mak-Shur" Cement Barrel: Insures a perfect cement job. Casing can be set on bottom of hole if desired; circulation established without moving the casing. Cement can be set at any point in the hole. Perfect distribution of cement entirely around casing, and perfect centering of pipe, is positively assured. Fully described in the Lorraine catalog.

3. Tibbetts Rod Rack: All that the name implies and the illustration suggests. Hangs from the crown and holds about sixty strands of rods in compact form, out of the way and out of danger. Fast and efficient in operation. Write for detailed description.

4. Stitzinger Universal Bearing: For Sand Reels. Will outwear the ordinary kind from ten to twenty times. Permits free movement of sand reel shaft in all directions to any extent without the slightest strain on bearing, reel or uprights. Perfectly lubricated.

5. Lorraine "B & M" Stuffing Box: The best and the best known device of its kind in the field today. Perfectly lubricated, reliable in operation. The expense of repacking and of scored rods entirely eliminated.

6. Lorraine Valves: The Lorraine Two-Way Valve and Lorraine Adjustable Relief Valve are two of the most reliable and economy producing valves ever built. You should know about them. If not, write us.

***The Lorraine Catalog contains complete descriptions and illustrations of all Lorraine products. Write for your copy today.***

## THE LORRAINE CORP.

*Manufacturers and Distributors of Oil Well Specialties.*

**110th & Alameda Sts., Los Angeles, Calif.**

*Mid-Continent Distributors*
The Crowell Co., 406 West First St., Tulsa, Oklahoma.
*Export Distributors*
Buck & Stoddard, 30 Church St., New York City.

# The BUYER wields a wicked Contract

When your production tests higher than pipe line requirements in water or emulsion content, the buyer holds a distinct advantage. You lose when you sell "cut" production AS IS. But what are you going to do about it? The prices are quoted for all gravities—the market prevails and you haven't a thing to do with it.

That policy was all right years ago, but not in this modern age. You can continue to sell your production "as is" if you want to, of course. On the other hand you can realize a far bigger profit from the sale of that same production if you so elect. It is strictly up to you.

"Petrecco" Electric Dehydrators make it possible for every producer to bring his "cut" oil to pipe line requirements at a cost so low as to show AN AVERAGE INCREASED PROFIT which far exceeds the normal profit on the same production. The complete particulars and proof of this is available to any oil man interested. If you fail to avail yourself of this opportunity you are passing up untold dividends for your company every year.

*If your production tests higher than pipe line requirements, call in the Official Oil Doctors. No obligation is implied by so doing.*

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Los Angeles, Calif.

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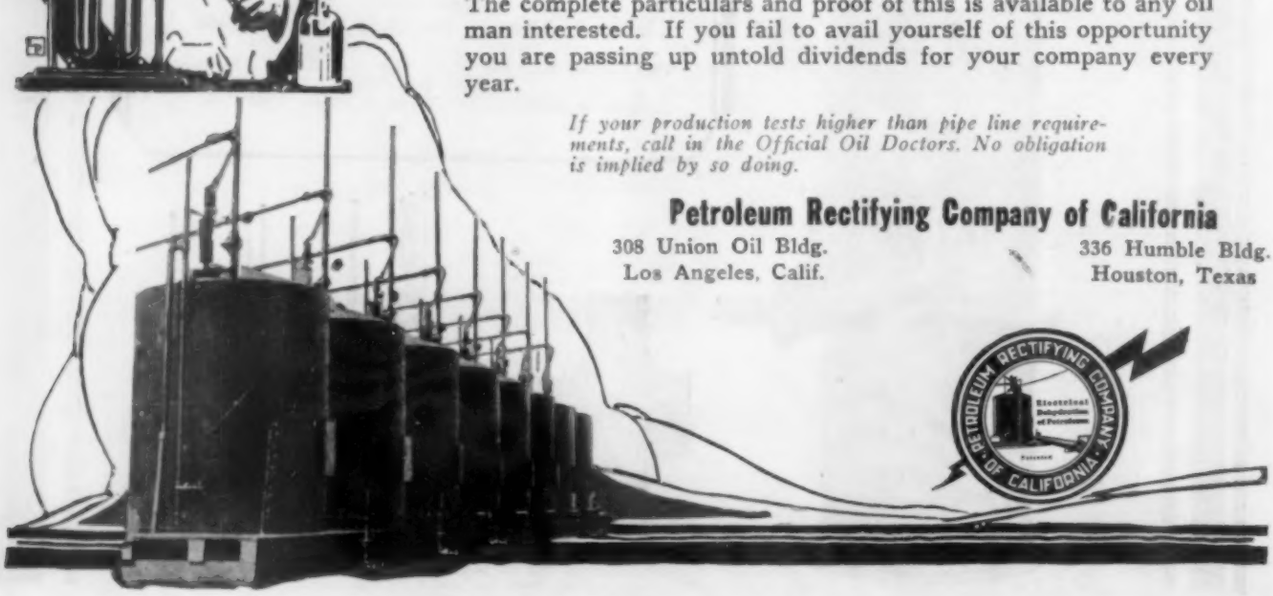
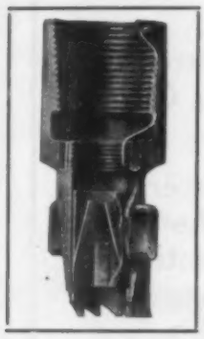


# take your own perfect cores with the PHIPPS CORE BIT

*The Phipps Core Bit will be on display at the Exposition in Tulsa October 1st to 10th*



Patents Pending

It requires no more skill to core with a Phipps Core Bit than to operate a fish tail. We guarantee the Phipps to take cores successfully from the softest sand, as well as any hard formation that can be cut with a fish tail bit. Your regular crew can take as perfect cores with the Phipps Bit, as an expert core drilling outfit can take for you, and take them whenever desired, as often as you like.

The Phipps Core Bit head is forged of a single piece of high carbon steel. When the crew comes out of the hole the complete bit is at the bottom of the drill stem. There are no detachable parts to work loose when rotating or backing up and cause fishing jobs.

The retainer, or inner barrel, which screws into the bit head, is made in three-foot lengths fastened together with collars. When broken out these lengths greatly facilitate removal of the core.

Longer life is assured by the large allowance made for the wear resulting from continuous use in hard formations, making it possible to renew the cutting edges of the bit head the maximum number of times. In some instances the cutting edges have been rebuilt by electric welding more than 200 times.

The Phipps Bit is handled just as if a fish tail was at the bottom of the drill stem and permits taking a core with unusual rapidity. You can keep the hole up to gauge, or rat-tail, as desired

Full and positive circulation is maintained while the core is being taken, insuring against balling up. Circulation is carried around the core, and a special valve at the top of the core retainer permits the ejection of any foreign matter, so that the core is not contaminated in any degree.

*NOT A SINGLE PHIPPS CORE BIT EVER HAS BEEN LOST IN THE HOLE*

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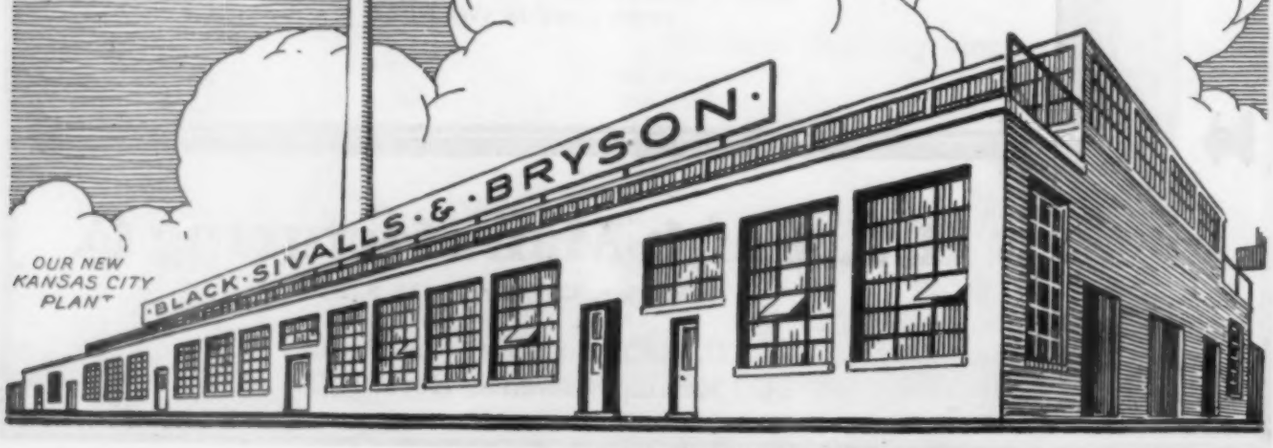


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# AGATHON ALLOY STEELS

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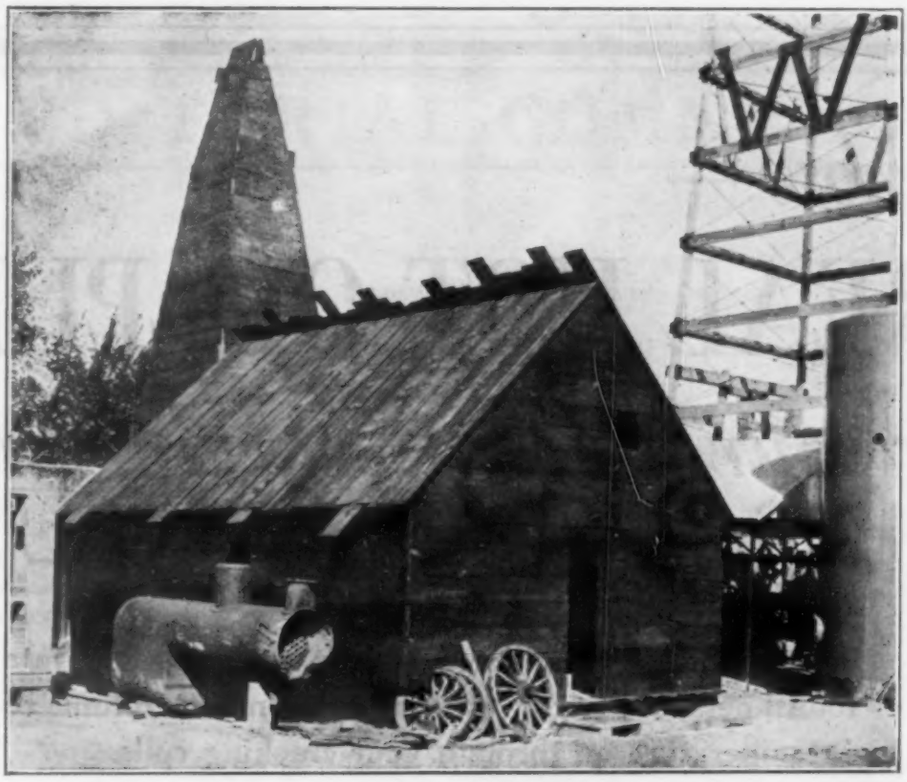

*The New And The Old*

*At the International Petroleum Exposition a replica of the Drake Well together with a display of the tools used on the first oil well forms a suitable background for the display of the industry's latest developments in field equipment.*

# The OIL WEEKLY

October 2, 1925 Volume 39, Number 2

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Published Weekly by GULF PUBLISHING COMPANY, INC.

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R. L. DUDLEY, *President;* A. L. BURNS, *General Manager;* SPENCER W. ROBINSON, *Editor*

**Office of Publication: 1716 Dallas Ave., Houston, Texas**

NEW YORK: Room 2002 350 Madison Avenue, H. H. Gill, Manager. CHICAGO: 453 First Nat'l Bank Bldg., O. R. Waller, Manager. LOS ANGELES: 1201 Haas Bldg., Wm. V. Gross, Manager. TULSA: 215-16 Atco Bldg., J. F. Carter, Jr., Manager. FORT WORTH: 212 W. T. Waggoner Bldg., H H. King, Manager. Issued Friday of each week. Single copies 10 cents. Subscription price $1.00 a year. Advertising rates on application.

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# EDITORIAL COMMENT

## *The Industry's Tools*

AN OLD ADAGE has it that a poor workman blames hi stools. It is probable that it got its idea from the fact that good workmen generally have good tools. At least he is intitled to them, and one of the characteristics of the good workman is that he is studying his tools along with his work.

To good workmen in the oil industry, then, the present number of The OIL WEEKLY is of particular interest, as is the equipment show at the International Petroleum Exposition at Tulsa. The principal value of the exposition to the men in the producing branch of the industry is in that it is an exposition of the new things in oil field equipment along with improved ideas in the application of old. This number of the oil producers special magazine is a supplement to the exposition. It carries illustrated descriptions of practically every item displayed at the equipment show, and in addition carries numbers of items which will not be displayed there. It is an extension of the exposition in that it will carry to those thousands of the industry who cannot attend the show as much of the benefits of such a display of field equipment as can be conveyed by the printed word. It makes available to those who cannot attend a synopsis of the year's improvements in oil field tools almost as complete as can be had by an actual visualization of the items which will be displayed there.

The trend of oil field development is distinctly toward more efficient operation. This means that more oil is being recovered at a lower unit cost. Men and machinery are the two factors in this lowering of production costs, and a great service is rendered by the exposition in providing place and opportunity for the two to be brought together under circumstances favorable to the advancement of the industry. The editors of this journal hope that the data on equipment contained in this number will be also an assistance to that end.

It is well recognized, as is pointed out in an article in this issue, that the manufacturers of equipment have had a very large part in the improvement of methods of recovering oil. As demands have been made upon them, the manufacturers have provided the better tools that the men in the field needed to drill deeper holes, to lift greater quantities of fluid from greater depths, and to more economically conserve the oil after it is brought to the surface.

The exposition is indebted to the manufacturers for their cooperation in bringing their exhibits to the show. The OIL WEEKLY also acknowledges its indebtness to these manufacturers who have cooperated in providing the descriptions and illustrations for the accompanying catalog of new things in field appliances.

It will be noted that the manufacturers in most instances have offered still further cooperation through an expression of their willingness to send further descriptive matter upon request. It is to be hoped that all readers will accept this offer freely.

## *Conservation Rules*

IT IS seldom, even in this democracy of ours, that the powers of the government are derived literally from the consent of the governed, as is exemplified in the conference held this week between the oil and gas producers and the Oil and Gas division of the Railroad Commission of Texas.

The hearing came at the invitation of the commission. All interests are agreed that the rules governing the development of oil and gas in Texas are in need of revision to keep pace with developments in the industry during recent years when the rules have not been changed. It was in the power of the commission to arbitrarily make its own rules and probably so doing would have facilitated their handling from the standpoint of the commission. But that would probably have meant some impositions upon producers.

It is well recognized that the general public has an interest in the natural resources of the State, regardless of private ownership of the lands covering such resources, and the general disposition is to not recognize those who are developing such resources as having a double interest—both as citizens and as developers. It is to the interest of the public that oil and gas be not wasted, and it is also to the interest of the public that the rules governing the prevention of such dissipation shall not place unnecessary burdens upon those who produce.

The oil industry has always shown itself willing to abide by the rules which protect the public and the industry, and the Texas Commission is getting the benefit of the knowledge and experience of some of the best talent in the State by inviting the producers into conference, and can thus be assured that such rules as may be made will best fit conditions as they now exist, as no interests are more interested in the full conservation of petroleum than are the people engaged in its recovery, and they alone are concerned in the effect methods of treating wells have upon adjoining properties. The importance of all operators participating in such conferences whenever opportunity presents, is fully apparent.

# September Average Slight Gain Over August

## Engineering efficiency increases United States output with fewer new producers

ALTHOUGH drilling records for the United States during September show a decrease in completions, production gained at the rate of 45,660 barrels daily, as compared with August. The total output of all fields for the former month was 65,079,240 barrels, while for September, the combined yield showed 64,312,295 barrels.

Before the direct relation of these figures can be stated, it must be remembered that the total for August represents 31 days, but that for September covers only a 30 day period. This gives August the advantage of one day's production, and yet the difference between the output of the two months is only 766,945 barrels. This figure subtracted from the total daily average production for all the fields at the close of the past month, which was 2,136,022 barrels, leaves a difference of 1,370,077 barrels, the actual gain for September over August, computed on a 31 day basis. This difference divided by the number of days in September gives the daily rate of gain for the month.

Completions showed a loss of 55 for September. Producers numbered 32 less than in August, and there was a slight drop in gas wells and failures. Initial production decreased 29,080 barrels.

Principal gains for the month came from Oklahoma, Kansas and Mountain States. In Oklahoma, the source of increase was the Braman field. New development in the Rainbow Bend area held production up in Kansas, and the Salt Creek field sustained the output of Mountain States.

Checking back over production figures for a period of several years one finds that September represents, in a general way, the turning point between the period of intense activity in the summer, and the slowing up that comes with the fall season. Such a checking also shows a cycle characteristic of each year, beginning with increasing figures as spring approaches, usually accompanied by a vigorous market. This continues through the spring and early summer, but as the fall comes on, prices weaken and there is a consequent easing off in field work, followed by a decrease in production.

This year, September shows a gain of 6442 barrels for the month against the same period in 1924. The big difference is represented by gains in Arkansas and California as compared with 1924.

### Better Methods

It has been more or less surprising that the output has held up so well in spite of a weaker market. Every section of the United States where oil is produced has suffered crude cuts this fall, but there is no section where production has shown a phenomenal or even a big drop. The states usually responsible for big fluctuations in output, Oklahoma, Texas, Arkansas, and California, have stubbornly kept a steady tendency with occasional indications of increases.

Such a situation indicates undoubtedly, improvements in production methods. Through expert use of compressed air, California operators are recovering more oil from individual wells today than they were a year ago. Through the scientific application of electricity as a medium of power, the output of the Salt Creek field in Wyoming is being increased from week to week, in spite of very few new wells. And in Texas there are many instances of increased recovery through the use of expert engineering schemes.

This is not saying that production figures for the entire United States can be held up solely through engineering. New wells are necessary, but there can be no doubt about the effect of progressive measures applied to producing properties.

California fields showing the bulk of work for the month included Athens-Rosecrans, Baldwin Hills-Inglewood, and Torrance. Athens-Rosecrans led both in completions and in initial production. This field was extended 400 feet to the east during the month, the well which made 800 barrels, opening a stretch of territory that had been condemned as having no value as a prospective area. Outside of this field completions were largely routine with a good deal of work confined to workovers.

### Wyoming-Montana

Wyoming and Montana reported a busy month, each showing up with a good completion record. The Salt Creek field in Wyoming, and the Kevin-Sunburst area in Montana were responsible for most of the wells. The Kevin-Sunburst field in Montana has practically come into its own this year and now has more than 350 producing oil wells and 20 gas wells. More than 150 dry holes have been drilled on the structure since its discovery.

The Salt Creek has about 1500 wells, some 1250 of which are on the beam. A few months ago the Midwest Refining Company completed its giant electrical plant, and since that time practically the entire field has been electrified and many wells put on production that were formerly dead. This has resulted in a tendency to increase for the Salt Creek field.

Texas and Louisiana coastal fields showed little development during September. At Pierce Junction, a 2500

**SEPTEMBER U. S. PRODUCTION**

**Following is the gross estimated production of crude oil in the United States for the month of September as compiled by The OIL WEEKLY:**

| | |
|---|---|
| California | 20,446,680 |
| Mountain States | 3,345,360 |
| Eastern States | 3,201,750 |
| Texas | 11,852,260 |
| Oklahoma | 13,961,790 |
| Kansas | 3,061,670 |
| Arkansas | 6,676,210 |
| Louisiana | 1,766,575 |
| Totals | 64,312 295 |
| August | 65,079,240 |

**UNITED STATES FIELD STATISTICS**

Following are the completions, showing producers, gas wells, failures, and initial production of crude by states for the month of September as compiled by The OIL WEEKLY:

| | | | | | |
|---|---|---|---|---|---|
| California | 106 | 95 | .. | 11 | 51,038 |
| Oklahoma | 354 | 204 | 28 | 122 | 71,918 |
| Kansas | 138 | 81 | 3 | 54 | 14,208 |
| Kentucky | 131 | 90 | 7 | 34 | 1,023 |
| Mountain States | 106 | 98 | 1 | 7 | 12,864 |
| New York | 25 | 24 | 1 | .. | 105 |
| Ohio | 195 | 123 | 33 | 39 | 2,340 |
| Pennsylvania | 149 | 108 | 28 | 13 | 1,787 |
| Tennessee | 5 | 1 | .. | 4 | 2 |
| West Virginia | 155 | 56 | 69 | 30 | 577 |
| Louisiana | 46 | 28 | 5 | 13 | 3,958 |
| Illinois | 12 | 11 | .. | 1 | 837 |
| Indiana | 11 | 7 | 1 | 3 | 167 |
| Arkansas | 156 | 91 | 20 | 45 | 31,247 |
| Texas | 545 | 339 | 10 | 196 | 84,010 |
| Totals | 2134 | 1356 | 206 | 572 | 276,081 |

**PAST TWELVE MONTHS**

**The record for the past twelve months is an interesting study for comparison purposes, the following table giving field statistics for all states in the Union. Figures for Mountain States begin in November, 1924.**

| Month— | Completions | Producers | Gas wells | Failures | Initial Prod. |
|---|---|---|---|---|---|
| September | 1,503 | 1,029 | 152 | 322 | 226,716 |
| October | 1,788 | 1,249 | 221 | 418 | 255,820 |
| November | 1,436 | 888 | 205 | 343 | 203,135 |
| December | 1,624 | 979 | 269 | 376 | 257,745 |
| January, 1925 | 1,704 | 1,028 | 262 | 414 | 522,901 |
| February | 1,627 | 1,011 | 190 | 426 | 247,886 |
| March | 1,637 | 1,053 | 189 | 395 | 242,718 |
| April | 1,972 | 1,284 | 183 | 505 | 460,063 |
| May | 2,639 | 1,777 | 218 | 644 | 763,802 |
| June | 2,323 | 1,583 | 177 | 563 | 669,048 |
| July | 2,728 | 1,818 | 259 | 651 | 483,764 |
| August | 2,198 | 1,388 | 202 | 608 | 305,170 |
| September | 2,134 | 1,356 | 206 | 572 | 276,081 |

barrel well extended the field about a half mile, but the output has not held up to anything like the initial flow, and it is doubtful whether the well will result in much new development.

For the first time since its discovery, the Urania field in Louisiana, produced enough oil to get into production reports, and this district reported several completions for the month. The productive area has been clearly outlined and several wells are drilling now. This field is in La Salle Parish and is controlled by the Urania Petroleum Company of England.

Eastern States showed a slight gain in production and held up well in field work.

### Oklahoma Under Expected

Development in Oklahoma in September brought a rise in crude oil production, although it did not meet expectations. And indications as the month closed were that daily output will not go to a figure near 500,000 barrels.

Checked back to causes, it reveals the failure of the deep sand at Garber to give up oil over an area as large as first calculated, as well as the encroachment of salt water in the wells drawing oil from the siliceous lime.

Although the Braman field has not come into high production, it does not have causes like those at Garber. Being closely held, Braman acreage is not being rapidly drilled. At that Braman is not the production threat it was two months back. Like Garber its productive area is not going to be as large as calculations first placed it.

Elsewhere in Oklahoma field development has been somewhat of the routine order.

Completions in September totaled 354, compared with 392 for August. September had 204 oil wells in its list of completions, against 218 in August.

But in the initial production column September scored ahead with 71,918 barrels, passing August's total of 54,176 barrels. The higher initial output of wells in September was due chiefly to the high output of the deep sand wells at Garber and at Braman. Garber wells, however, have not held up consistently.

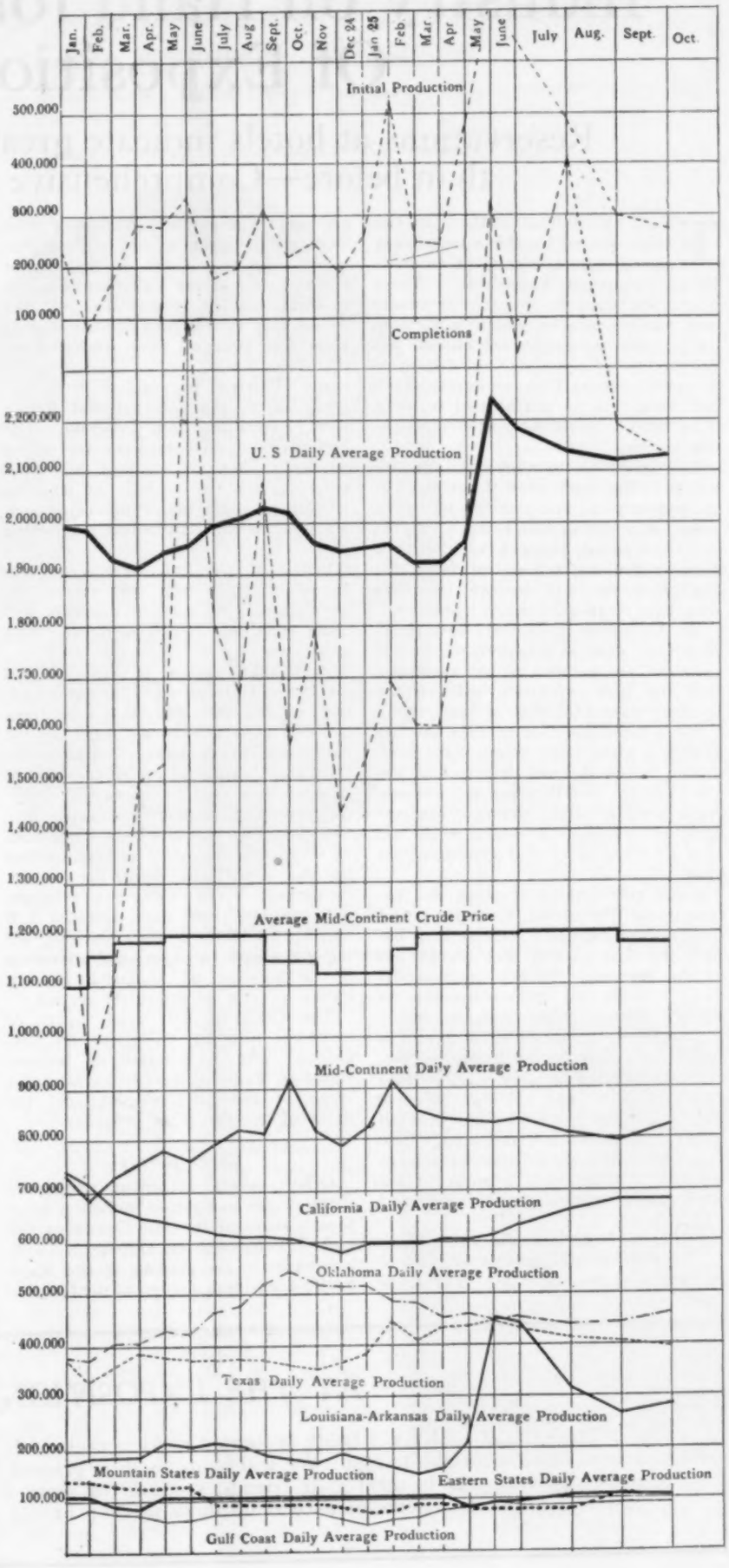
Although September had but 30 days, its total output reached 13,961,790 barrels, against an August total of 13,813,865 barrels and August had 31 days.

### Kansas

The outstanding development in Kansas oil fields in September was the completion of an oil well east of the Arkansas river from the sand producing in the Rainbow Bend pool, west of

(Continued on page 236.)

***Detailed statistics of all U. S. Fields for Septemb r begin on page 236.***



# Industry on Hand for Opening Of Exposition

## Reservations at hotels indicate greater attendance than before—Comprehensive displays

TWENTY million dollars is the value placed by the management on exhibits at the third International Petroleum Exposition. There are a few gaps in the exhibit spaces and many concerns which were here on previous occasions are absent, but the variety of equipment on display is as much or more than the average man will have time to get around to, even if he works consistently at it throughout his visit.

The latest discoveries and improvements in the mechanical department of the industry are being shown while the congress sessions will bring forth the most advanced thought of the time from noted authorities of both the United States and foreign countries who have been selected as speakers.

W. G. Skelly, president, and E. F. McIntyre, general manager, of the exposition, are authorities for assurance that the 1925 exposition will surpass in every particular that of last year.

Since the exposition of 1924 another 1200 first class hotel rooms have been added to the sleeping facilities of the Oil Capitol. But they are not enough. Each hotel admitted having made reservations equal to its space far in advace of the date of that condition last year.

Hotel reservations stamped the International Petroleum Exposition and Congress of 1925 as a success long before the first exhibit was placed out at the grounds. Proper accommodations for invited guests became an early problem.

The third annual International Petroleum Exposition and Congress nocturnally initiated 10 days of fellowship and rare good time. If old graduates have a right to get back for a football game in the afternoon and a high time that night, why should not the men of the oil industry have a right to get back somewhere and sing a few songs?

### Entertainment

This third Exhibition carries more of the spirit of the state fair. For there are more shows and attractions than were on the grounds either year previous. So the shout of the barker and the ring of the Ballyhoo adds the carnival touch. The rides and the shows may be designed for the youngsters but your oil field worker likes them too.

But all is not purposeless in the attendance at the International Petroleum Exposition and Congress. The executives of oil companies are seeing to that. They are sending their men to Tulsa for the purpose of learning something more about the equipment essential to the economical production of oil.

Scores of companies have a program by which their men will attend the exposition. A certain number will come each day. Each will come with a purpose.

And that makes it certain that crowds will file through the gates each day of the 10. Special trains from Pennsylvania and from Texas are to contribute to attendance. Low rates from every center of oil production are another insurance of crowds.

Although a part of the event, the Congress this year has been segregated as to its meeting place and indications are that it will fare better for this arrangement. The Congress program will continue three days, October 5, 6 and 7, two hours of each morning being given over to papers and addresses by authorities on subjects bearing either directly or indirectly on oil.

The Congress will draw scores of technical men to Tulsa for its programs. The Association of Natural Gasoline Manufacturers has arranged a series of committee meetings for the dates of the Congress program.

### Other Events

Other events attendant upon the dates of the exposition include a business session of the Mid-Continent Oil and Gas Association October 7, with a banquet in the evening at the Mayo hotel; a business session of the Knights of the Derrick October 8; a smoker for the Mid-Continent section of the American Institute of Mining and Metallurgical Engineers at the Mayo hotel the night of October 8; a meeting of the Mid-Continent Oil Scouts October 9, with banquet and ball in the evening.

Committee D-2 of the American Society for Testing Materials will meet in Tulsa October 5 and 6. This is the committee which determines the methods and apparatus for making tests on refined products.

The night of October 6, the Western Petroleum Refiners Association will give a banquet in honor of the members of committee D-2.

## Market Gas From Gray County Wildcat Well

Amarillo, Texas.—A market for the gas production of the Danciger Oil & Refining Company's wildcat gasser on the J. B. Bowers land, section 85, block 3, Gray County, is to be provided by the construction of a small line from the well to the town of Pampa by W. L. Woodard and associates of Santa Anna, Texas. The Danciger well is good for 15,000,000 cubic feet of dry gas daily, and the gas will be sold on a flat monthly rate to the above parties, who have franchise to supply Pampa at 70 cents per thousand cubic feet of gas.

Panhandle Refining Company's second test of the Dial-Perkins ranch in Hutchinson County is shut down for storage with hole full of oil after being shot with 40 quarts at 2924-28 feet and 420 quarts at 2980-3045 feet. This well is in section 23, H. & T. C. survey, block 47, and proves more acreage for drilling. The Douglas Oil Company has made location for a test on the G. A. Whittenburg land in section 20, H. & T. C. survey, block 47, and about 1120 feet due east of the company's small pumper on the Whittenburg ranch. The new locations in the South Hutchinson County field were made last week by the Drysdale Oil Company and Parks et al.


## *AT THE EXPOSITION*

The OIL WEEKLY'S booth is located right in the middle of things at the Exposition. It will be easy for you to find. We will be more than pleased to have you call to see us, make appointments to meet your friends, come in to write a letter, send a telegram, or just rest a minute. Some of us will be there so drop in and get acquainted.

# OFFICERS AND BOARD OF GOVERNORS
## *INTERNATIONAL PETROLEUM EXPOSITION*

The Board of Governors of the International Petroleum Congress follows:

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Richard Airey, president, Asiatic Petroleum Company (Royal Dutch-Shell).

Dr. H. Foster Bain, secretary, American Institute of Mining and Metallurgical Engineers.

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Robert Barringer, Institute of Petroleum Technologists, Aldine House, Bedford Street, Strand, London, W. C. 2., England.

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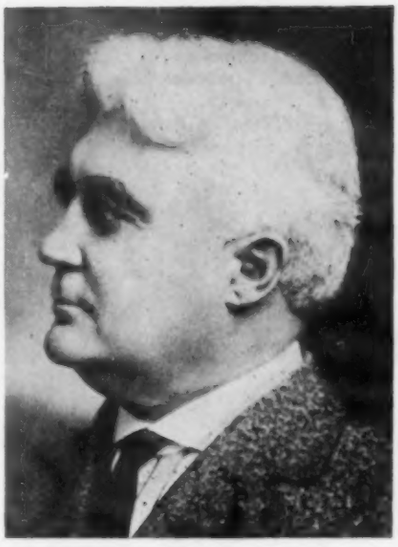

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# Supply Dealer Is Banker for Hazardous Industry

IN ONE of the Pennsylvania oil towns two years ago, an elderly man called his son to task, saying,

"You ought to get down here at 4 o'clock in the morning so that you could sell something to the men going to the wells to work."

The son, middle-aged himself, took the reprimand with a twinkle in his eye. His father some years back ceased activity in the business. But he has never come to appreciate the change that has come into the business of selling oil well supplies within the span of a life time.

The father owned a hardware store in the Pennsylvania town. Along came oil. So he stocked implements and equipment necessary to drilling. In order to get more sales, he opened his store at 4 o'clock in the morning, so the drillers and producers could make purchases as they left town for the field.

The son is now back in the hardware business. He sells no oil well supplies. But the father cannot forget. His ideas cling to the days when 4 o'clock was the time of day for an enterprising merchant to get to his store, if he would enjoy any trade from the oil fields.

Doubtless from a store, such as the one started by the father and now managed by the son, the vast business of supplying the oil industry with equipment had its beginning. Some day the past will be uncovered sufficiently to learn just where the first oil well supply store was set up.

It's a unique business. It exists solely for the one purpose. Throughout the world, the supply companies maintain branches just to serve one industry. Just as certain as an oil field gets under development, the supply houses come next. And they never vary in their purpose. Their shelves carry equipment for drilling wells and for producing oil.

There are mercantile establishments that follow other industries. But they do not stop with selling the equipment necessary to maintaining the business. The stores offer food and clothing for the workers. Oil field supply stores could do that. But they are devoted to just one business.

And they have done their work so well that no other industry can match that of oil in the matter of having equipment available for its work. Speaking before the June conference of committees on standardization of the American Petroleum Institute at Dallas, J. Edgar Pew, president of that organization, said:

"There are single companies which carry in their warehouses stocks of millions of dollars in value at all times. These stocks are made up of equipment to meet any condition that may arise.

"The smaller companies depend to a greater extent on the local supply stores. So the supply companies must carry relatively large stocks."

Mr. Pew was speaking in behalf of standardization of equipment, one result of which will be the elimination of many sizes, with the result that inventories of supply companies will be reduced. But this will in no way hamper the service the supply stores render the oil business. Mr. Pew struck a warm note when he referred to the dependence of the smaller oil companies on the local supply stores.

Without the supply companies and their numerous stores, either there would be no independent oil producers or else different means would have to be found for providing supplies for such producers. As the oil industry is now functioning, the independent producer can not carry a stock of supplies sufficient for his needs. Margins of profit will not permit it.

That is where the supply companies serve the oil industry. Their local stores have taken the place of company warehouses. Hundreds of producers carry no reserve of oil well equipment. The supply store is just as close as a warehouse need be. Some of the larger companies carry only small warehouse stocks. One of the larger concerns of the Mid-Continent is slowly reducing its stocks of

(Continued on page 241)

# Adapting Motors of Low Horse Power to Pumping

## Midwest Refining Company uses small prime movers for wells as deep as 2000 feet

*By Grady Triplett*
*Staff Representative*

Casper, Wyo.—By careful counterbalancing, engineers of the Midwest Refining Company have been able to pump wells as deep as 2000 feet in the Salt Creek field with five horsepower electric motors. These motors are capable of lifting from 25 to 150 barrels daily.

Adoption of the five horsepower motor for beam pumping is one of the developments that has come with the electrification of the Midwest properties in the field. These small motors are responsible for a reduction of 90 percent in motor investment for pumping, while they are a further saving in that they keep close to a constant 100 per cent load, thereby improving the power factor.

This use of the small motor has made it necessary to devise portable electric-motor units for pulling rods and tubing. It also is necessary to leave each well equipped so a larger motor can be set up in a short time for cleaning out a well.

But the necessity for this sort of equipment still keeps the investment in pumping motors far below that when it was the custom to keep a large motor constantly installed, so the pulling and ceaning out could be done with the equipment at the well.

### Jibes at the Motors

Executives of the company tell frequently of the first report brought back to field headquarters when a crew of electricians went out to set the first five horsepower motor for pumping. When asked how the motor performed, one of the electricians replied:

"Boss, we lost that thing in the dust and could never find it."

The small pumping motors are frequently referred to as "watch charms".

Even while watching one of these small motors doing its task in good fashion, it is almost necessary to call on the imagination in order to grasp the significance of the fact. For the Midwest installations of these motors leave them pumping through a countershaft and then to the band wheel, just as the larger motors were used. Small motors are used for pumping wells frequently but these are usually given the benefit of a direct geared connection.

Midwest officials sought a method of using the small motors without the special gears in order to keep down the investment in pumping equipment.

One of the Portable Units at work on a job

### Large Motors First

When the Midwest company completed its power plant in the Salt Creek field, one of the objects was to pump wells with motors. At first the wells were equipped with 15-35 horsepower motors, built for beam pumping. These motors are double wound, being so designed that they will develop 15 horsepower on one winding, while the throwing of a switch will put them in operation on the winding that will bring 35 horsepower into use.

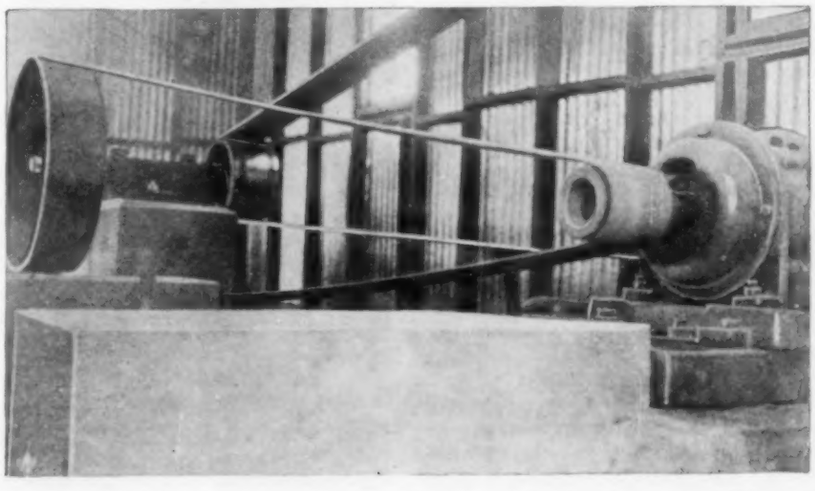
The smaller side of these motors is for pumping. The larger size is for pulling rods and tubing and for cleaning out. No fault ever was found with this type of motor, so far as performance was concerned. But on the investment side, it was thought wise to seek a method by which pumping could be accomplished by equipment of lower first cost.

Investigation and experience finally brought adoption of the five horsepower motors. There are now 750 of them in use and more are to be added as wells cease flowing and are ready for pumping.

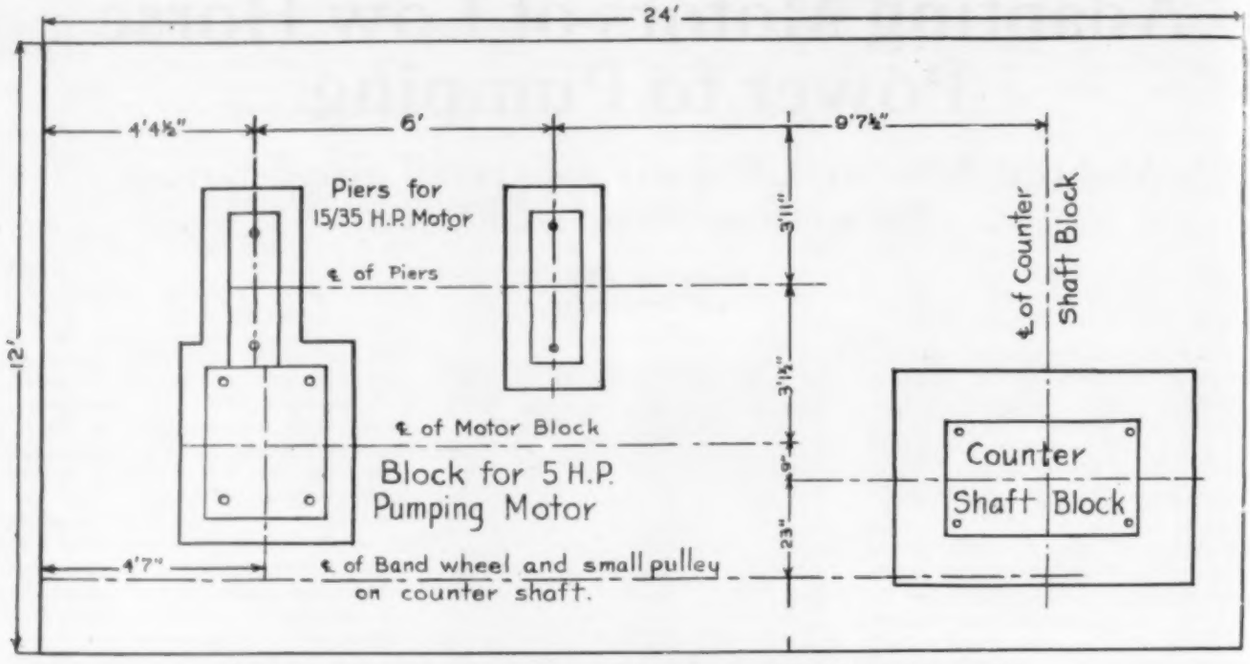
### Still Improving

There is nothing to assure that the five horsepower motor will continue to serve with its present auxiliary equipment. Engineers of the Midwest Company have been improving pumping equipment and service from the first installation. So it is reasonable to expect further improvements.

But it is safe to conclude that motors of low horse power will continue to do beam pumping of wells as deep as 2000



Interior of a motor house with a five h. p. motor at work. The concrete pin for the 15-35 h. p. motor is in the foreground




Floor plan of motor house for pumping with electric motors of low horse power, as used by the Midwest Refining Company in the Salt Creek field

feet. Changes may come as they are warranted.

Without accurate counter-balancing, use of the motor of low horse power is not satisfactory. Two counter-balancing methods are used by the Midwest. The one first adopted was by installing a box, as shown in one of the accompanying illustrations, so its weight was suspended from the walking beam.

This box allowed weight to be added until correct counterbalancing had been accomplished. The installation, however, was somewhat complicated because of the necessity of adding a support from the Sampson post and the rods from the walking beam.

### Counter-Balancing

So this type of counter-balance is seldom used now. Instead iron weights are bolted to the band wheel. These have been found an effective counter-balance and one that requires little trouble for installation and at the same time does not add any additional moving equipment to the well machinery.

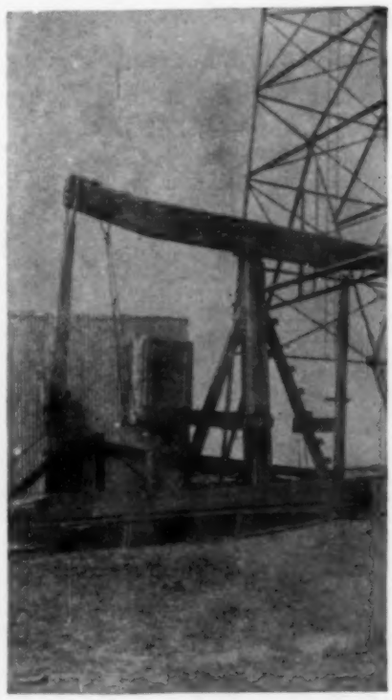
These weights are cast in segments of a circle, whose radius is like that of a band wheel. Bolt holes are left in each end. The castings are of different weight. These weights are calculated according to well depths. From such figures the engineers know what weight of casting to put on each well. So one or more of these castings is put on the band wheel, accomplish the proper counter-balance.

### Keep Load Constant

The effort is made to so weight the band wheel that the downward stroke in the well is equal to the upward stroke. To arrive at this ideal, often requires continued placing of the weights. But successful pumping by a motor of low horse power requires this delicate balancing of the load.

When properly balanced, this type of equipment gave what engineers of the company were seeking. The conditions that prompted the change as well as the theory behind the decision have been explained by A. W. Peake, general superintendent of the production department of the Midwest Company as follows:

"The condition that surrounded the choice of equipment for oil well pumping are influenced by many variables.



One type of counter-balancing. This is not being used in later installations

The amount of sand in the oil, the amount of gas encountered, the gravity of the oil, the amount of water, the length of the pumping stroke, the number of strokes per minute, the size of tubing, the temperature or climatic conditions, and the depth of the well, all have a direct bearing upon the type of equipment and the power required. After installing these equipments (the 15-35 h. p. motors) various tests were made and it was found that due to local conditions in the Salt Creek field, that the power input on the 15 h. p. side of this motor was so small as to make the efficiency and power factor of this equipment very poor.

### Power Factor

"Useful power is read with the aid of a wattmeter, which automatically takes into account power factor. Apparent power is the product of amperes flowing times the volts or pressure in the circuit, and is obtained by multiplying ammeter and wattmeter readings together. Power factor is the ratio of useful power to apparent power or conversely useful power equals power factor times apparent power. When the power factor is 100 per cent the product of ammeter and voltmeter readings equals the wattmeter reading. At 75 per cent power factor, the wattmeter reading is 75 per cent of the product of ammeter and voltmeter readings. The result of a low power factor then is the wattless component of power, which does no real work but tends to lower the efficiency of the power system as its value in per cent decreases.

"There are various types of equipment on the market for power factor correction, such as synchronous and static condensers. The cost of these power factor corrections is very expen-

sive and they are not a means to correct trouble at the source, which is of course the best way to get at such a problem.

### Why of Small Motors

"With this in mind it was decided to install a few five horse power constant speed squirrel cage, 1200 r. p. m. motors. This equipment was inherently a better power factor and since the power requirement of the well would more nearly load this motor, a better power factor could be obtained. These small motors were installed at once and complete data obtained towards making some decision on the matter.

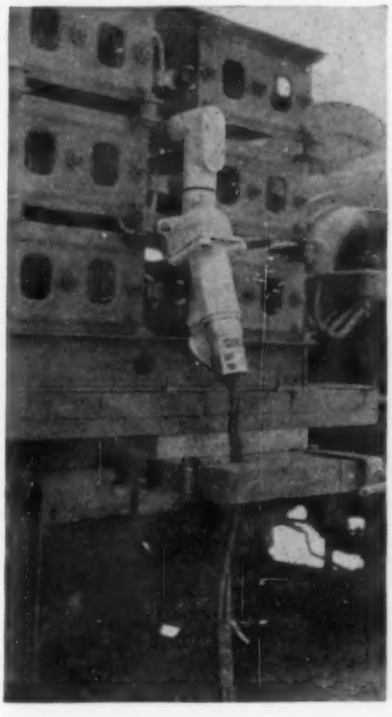
"The benefit of this type of drive was immediately evident as the average power factor was increased from approximately 20 per cent to 60 per cent. The motor also was perfectly able to pump a well, the only drawback being the lack of power for cleaning out or pulling rods and tubing."

The floor plan of the motor house for pumping with a small motor is shown in the accompanying illustration. This floor plan is not the only one used but it gives an idea of the arrangement as found successful in this field.

### Motor House Plan

The housing for the motor and countershaft as well as for band wheel and belting is of corrugated iron. Chat over the dirt is the flooring in the motor house. Concrete piers are laid for both motors and the counter shaft.

Usually the concrete pier for the five horse power motor is at the end of the motor house nearest the walking beam. The concrete is poured and bolts left for anchoring the motor. At the other end of the house is the pier for the countershaft, this being bolted in a manner similar to that of the motor.



Control equipment and cable connection for a portable unit

Then each motor house has a concrete pier for installing a larger motor. This pier is for temporary use when a well must be cleaned out. One way of installing this pier is to so arrange the bolts from it that the larger motor when installed will have a belt line center identical with that of the smaller motor. This permits the larger motor to be set up, the belt from the smaller one thrown off and the larger one belted from its pulley to that of the countershaft.

Endless belts are used for both pumping and cleaning out. For pumping a six-inch belt has been found satisfactory, while a 12-inch belt is used for the larger motor in cleaning out or drilling deeper.

### Setting Up Quick

By having this concrete pier installed, it is possible for a crew from the electric department to set up a large motor and have it operating within two hours after arriving at a well. The only necessity for such a change is when a well is to be cleaned out or drilled deeper. So the number of times this must be done in a year depends on conditions in the well.

Electrical connections from the field lines to a motor house are through a standard hookup, consisting of leads from the pole in conduit to a standard receptacle on the inside wall of the motor house. The five horse power motor is connected to the circuit by means of a plug, which can be put in or removed, as this motor is taken off or put on the line. It also allows the starting switch to be kept in circuit whenever the plug is in place.

### One Off—One On

Connection for the 15-35 horse power motor is made in a similar way. When the larger motor has been put in place, it is necessary only to remove the plug for the smaller one and insert the plug of the other.

Well lights are taken off this receptacle by means of a small transformer, which reduces the current from 440 volts to 110 volts.

In order to get changes in the number of pump strokes per minute, it is necessary to change the pulley sizes.

Portable unit for pulling tubing, bailing or swabbing

This double motor arrangement at the wells takes care of the two major power jobs at the well, that of pumping and that of cleaning out. But there are other needs for power in excess of the five horse power, which do not warrant the installation of the 15-35 horse power motors. These are the rod pulling and tubing pulling jobs that come oftener than cleaning out and do not last as long.

### Portable Units

It is for these jobs that the Midwest engineers have designed two types of portable units, each mounted on a truck and each using electric power for work at the well.

While it is not generally used, it has been found that the 5 h. p. motor can be used for pulling rods. This is done by doubling the line and using the sand reel, in case one remains at the well. This method is slow, however, and is used only in emergency. For rod and tubing pulling the portable units are generally used.

One of these is a ton and a half truck, Graham Brothers body and Dodge chassis, on which is mounted a 20 h. p. direct geared, motor driven mine hoist. Three men are required for operating one of these units. These are used only for rod pulling, a type of work most frequently demanded of the portable units.

### Anchored at Well

The other portable unit is similar in construction but larger in all dimensions. The truck is a three ton affair, F. W. D., or a trailer, pulled by a Fordson tractor. In either case a 40 h. p. motor is geared direct to a mine hoist. These units are for pulling rods, tubing and bailing or swabbing.

Control for each type of equipment is mounted on the truck. Each type

"OILWELL"
ESTD. 1862
C O
TRADE MARK.
(REGISTERED)

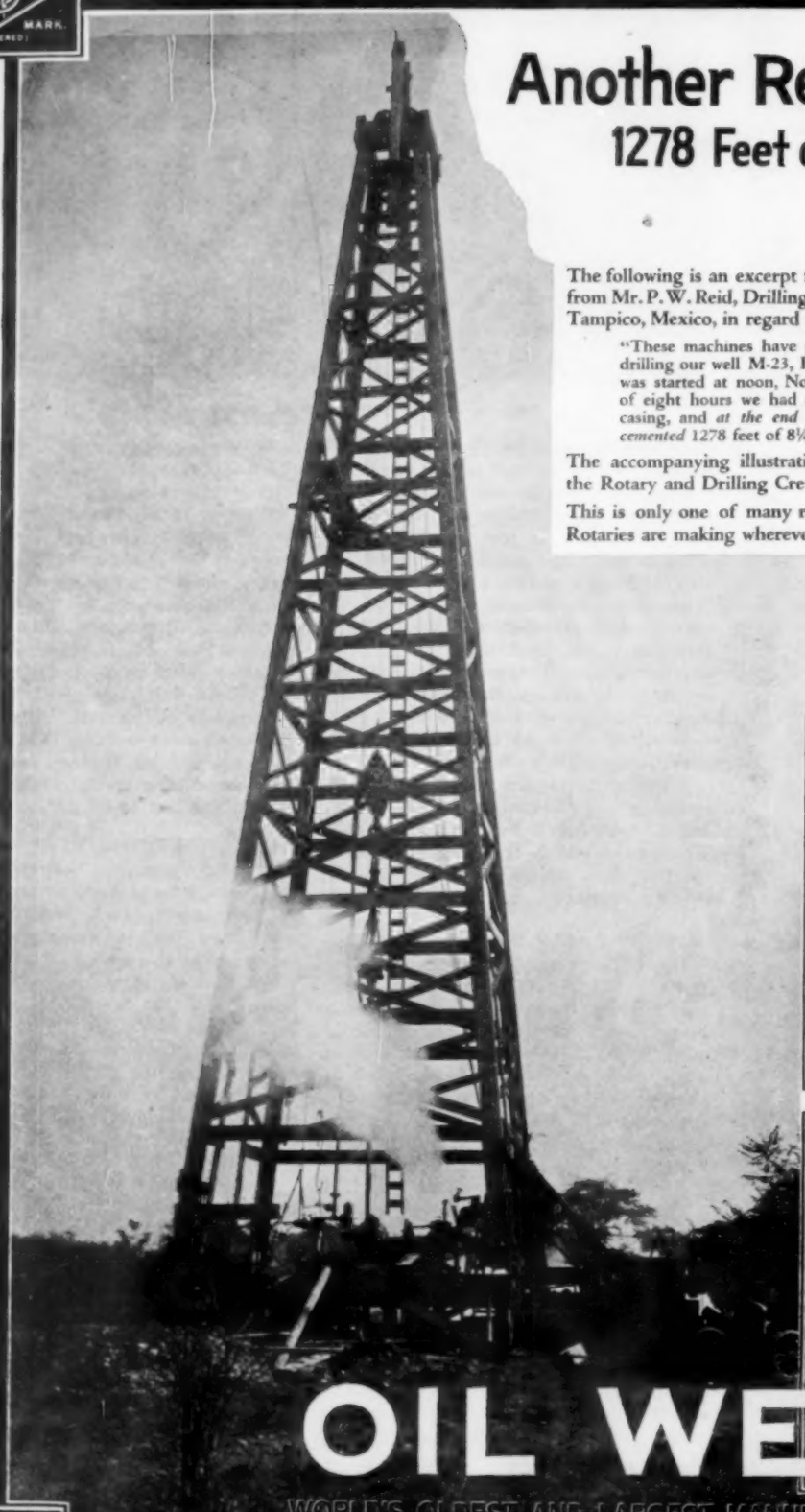
# Another Record *for the*
## 1278 Feet of 8¼" Casing Set

The following is an excerpt from a letter dated Jan. 24, 1925, from Mr. P. W. Reid, Drilling Sup't., of the East Coast Oil Co., Tampico, Mexico, in regard to "OILWELL" Imperial Rotaries:

> "These machines have proven very satisfactory. In drilling our well M-23, Potrero del Zacate, spudding was started at noon, November 26th, and at the end of eight hours we had set 164 feet of 12½" 45 lb. casing, and *at the end of 72 hours* we had *set and cemented* 1278 feet of 8¼" casing."

The accompanying illustrations are actual photographs of the Rotary and Drilling Crew that did the work.

This is only one of many records that "OILWELL" Imperial Rotaries are making wherever rotary drilling is practised.



OIL WELL S

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQ

"OILWELL"
ESTD. 1862
C O
TRADE MARK.
(REGISTERED)

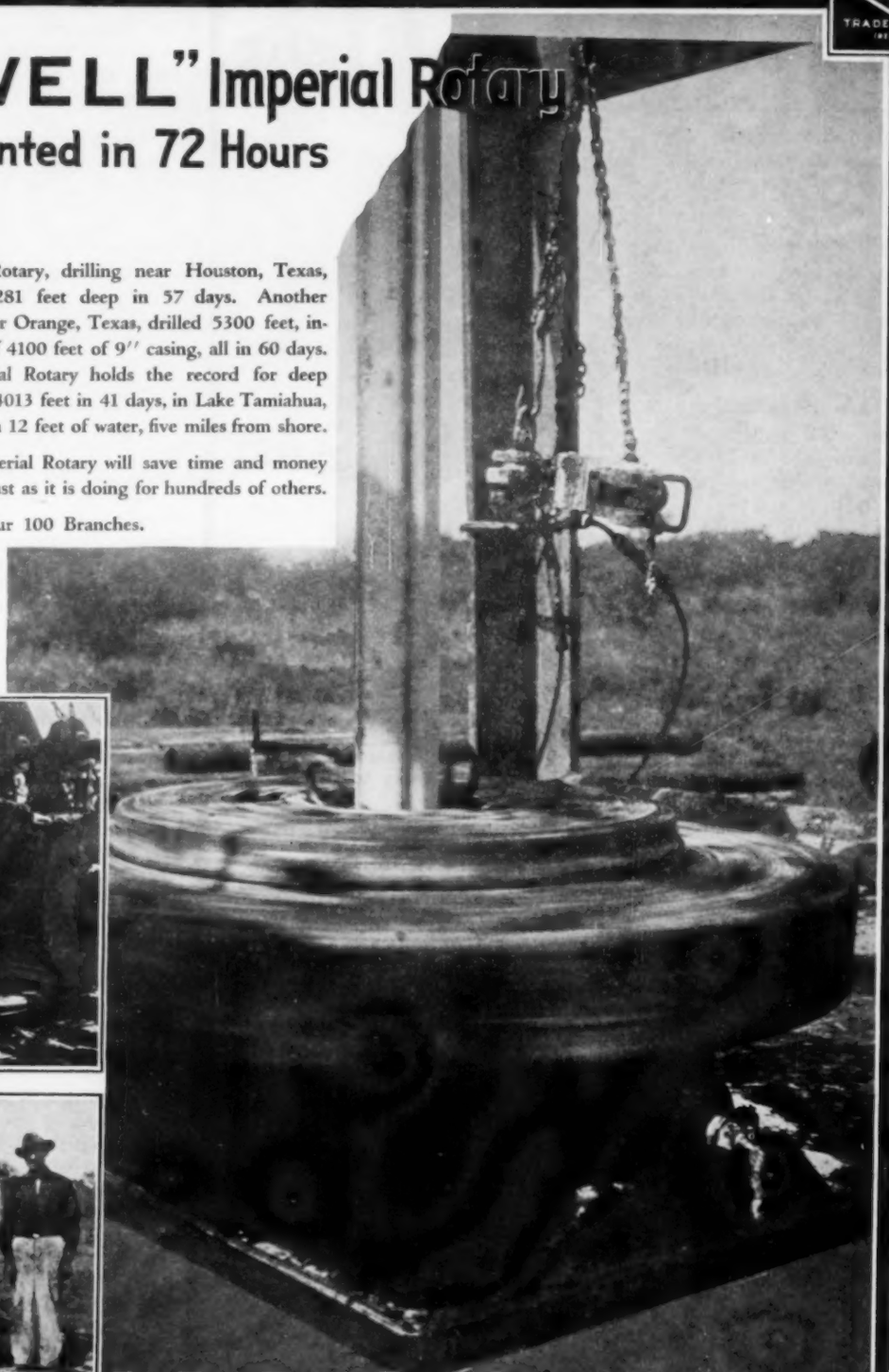
"OILWELL" ESTD. 1862 TRADE MARK. REGISTERED

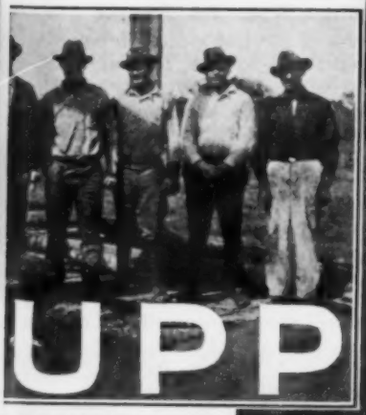
# "OILWELL" Imperial Rotary
## and Cemented in 72 Hours

Another Imperial Rotary, drilling near Houston, Texas, completed a well 5281 feet deep in 57 days. Another Imperial Rotary, near Orange, Texas, drilled 5300 feet, including the setting of 4100 feet of 9″ casing, all in 60 days. Still another Imperial Rotary holds the record for deep drilling in Mexico—4013 feet in 41 days, in Lake Tamiahua, drilling being done in 12 feet of water, five miles from shore.

The "OILWELL" Imperial Rotary will save time and money on your operations just as it is doing for hundreds of others.

Inquire at any of our 100 Branches.





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FIELD EQUIPMENT

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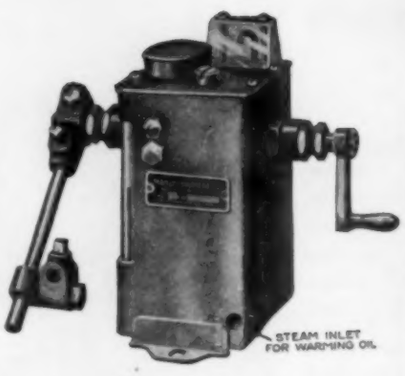
"OILWELL" ESTD. 1862 TRADE MARK. REGISTERED

# This Lubricator Will Oil Your Engine Right

It supplies clean, fresh oil to the engine cylinder regularly and in just the right quantity to give efficient lubrication.

Starting the moment the engine starts, it speeds up, slows down and stops with it, always supplying oil in proportion to the engine's speed.

Day or night—winter or summer—it's on the job every minute, requiring no attention, never forgetting, never falling asleep.

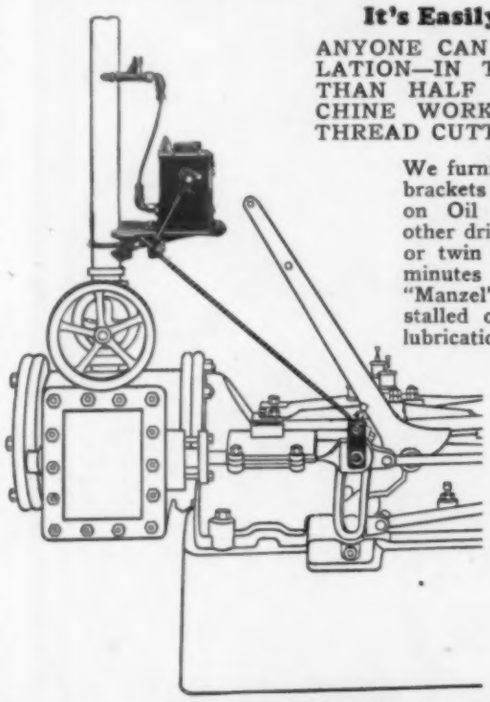



## The "Manzel" Force Feed Lubricator

Lubricates drilling engines, mudhogs, air and gas compressors, pumps, etc., automatically and efficiently, using 30 to 60% less oil than ordinary lubricators.

You can't waste oil with it and after it is installed you can forget all about your engine lubrication, for the "Manzel" will see to it that the cylinder is lubricated, and lubricated right.

The most inexperienced helper can take care of it, for after the supply is once adjusted to suit your engine, there is nothing to do except to keep the reservoir supplied with oil.



**It's Easily Installed, too!**

ANYONE CAN MAKE THE INSTALLATION—IN THE FIELD—IN LESS THAN HALF AN HOUR. NO MACHINE WORK, PIPE FITTING OR THREAD CUTTING NECESSARY.

We furnish (when desired) special brackets and fittings for installing on Oil Well, Ajax, Warren, or other drilling engines, either single or twin type. In less than thirty minutes after you receive the "Manzel" Lubricator, it can be installed on your engine and your lubrication troubles will be over.

Don't fail to see our interesting working exhibit of "Manzel" Lubricators at the

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**Booth 105**
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**MANZEL BROTHERS COMPANY**
**332-334 Babcock St. Buffalo, N. Y.**


is operated separate from well equipment. On arriving at a well which is to be worked over, the cable is run to the motor house for electric connection.

A permanent "dead man" is buried at each well. The truck is anchored to this. Then the cable is run from the pulleys and the work of pulling can progress. Four men are necessary for operating the larger portable units.

In pulling wells, all rods are hung in the derrick in two-joint stands, the rods being 30 feet in length. Tubing also is placed in the derrick in three-joint stands. All derrick men are required to wear safety belts.

### Electricians Make Repairs

Operation of these portable units is left to men of the electric department. When a pulling job or a cleanout job is necessary, order for the equipment is sent to the electric department and the equipment is put in place under its supervision.

All repairs and adjustments of motors are left to the electrical department. The only step left to a pumper in caring for this part of his equipment is that of putting in a new fuse. When a pumper makes his round to start his motors each morning, he goes first to his starting switch. Should a motor fail to respond, he inspects his fuse box. If a fuse has "blown" he may install another and then try starting his motor. If it performs then, he goes on to the next well.

But where some trouble other than a burnt out fuse is evident, he sends a report to the headquarters of the electrical department, giving the number and location of the well. All repairs and adjustments are left to men of this department.

The electrical department is divided into districts, just as the producing department of the company is divided for the field. There is a trouble wagon for each district and the crew of this wagon attends to all electric equipment.

### More Wells Per Pumper

The use of electric motors for pumping has made it possible for one pumper to attend a greater number of wells than was formerly the case. This is due to the fact that he has nothing to do with repairs and adjustments of his driving power and the further fact that the electric motor is not prone to give trouble in operation.

Deeper wells than 2000 feet may require motors of higher horse power rating. Motors of 7½ and 10 h. p. may be required for deeper wells. The Salt Creek field is one of several sands and the deeper ones have not yet been drilled.

The Midwest Company also has six band wheel pumping powers driven by electric motors. The type of motor best suited for this work is one of 40 h. p., 1200 r. p. m., slip ring, or either constant or variable speed and with high torque by inherent design.

# Like New
## *After 9 Years' Service*

In 1916 The Balboa & Cortez Oil Company of Tulsa, Okla., purchased about 2700 feet of Byers 2" 4½-lb. tubing. In the picture above their general superintendent, Mr. Donnelley, is seen inspecting the tubing on a recent visit to Oilton where it had just come out of their Well No. 1, Mattie Derrison Lease, after nine years' service. You could hardly tell it from new tubing, were it not for the figures showing year of manufacture which are rolled in the pipe metal.

The photograph in circle at right is a close-up of the tubing, plainly showing the roll marks in the metal—BYERS '16, the figures indicating that it was made in 1916. The threads are as good as new. The years have slipped by without a single failure from crystallization or rust.

It is a record which shows what kind of stuff Byers is made of—genuine old-fashioned wrought iron; tough and wiry, it is, this iron; it resists rust and wear to the utmost; and the small extra first cost is repaid the owner many times over.

Balboa & Cortez Well No. 1, Mattie Derrison Lease, 2-18-7 at Oilton. Depth 2679 feet. Drilled Sept. 1916. Note clean, new appearance of 9-year-old Byers tubing recently pulled.

A. M. BYERS CO., Pittsburgh, Pa.
Established 1864

HOUSTON TULSA LOS ANGELES

STOCKS CARRIED AT
Shreveport, Mexia, Houston, Corsicana, Los Angeles and Taft

# BYERS Tubing
## GENUINE WROUGHT IRON

*Say you saw it in The OIL WEEKLY*

# *Here's a Pair That ~Then Help*

The tremendous pressure that continually bombards your well-settings makes it absolutely imperative that your heavy duty valves be capable enough to withstand strain and expansion.

To meet these requirements, Darling engineers, after long research and experiments, have succeeded in producing a heavy duty Cast Steel Drilling Gate Valve combining all the advantageous features of the Darling Gate Valve, plus extreme lightness, unusual strength, and many new improvements.

Study these fine points and see if Darling Cast Steel Drilling Valve isn't the right valve for your operation:

1. Cast steel frame of great tensile strength.
2. Discs of forged steel or forged steel bronze-faced that seat in a new clean position at each operation. Equal wearing—long lived.
3. Renewable seat rings concealed into body of valve so as to clear pipe and tools.
4. Guide rings, cast integral with body that protect and guide casing and tools.
5. Clearance through seats is practically two inches greater than inside diameter of pipe or casing.
6. High tensile steel body flange bolts and nuts.

## Darling Valve & Manufacturing Company

Williamsport, Pa.

New York Chicago Oklahoma City Houston

Mid-Continent Distributors:
Frick-Reid Supply Company
International Supply Company
Atlas Supply Company
Petroleum Supply Company

California Distributor:
Petroleum Equipment Company, Los Angeles

# DARLING GATE VALVES

# Will Help You Get It You Keep It!

Darling Gate Valves have given faithful service in the oil fields for years—in production, conveying and refinery service. Many of the large companies have standardized on them after early experiences proved conclusively that Darlings minimized losses by staying on the job. And in emergencies, Darlings could always be depended on to "stick with it" till the trouble was over.

Here are the several reasons for Darling's reputation as the most easily operated, tightest and longest wearing valve for oil field work:

OPERATES EASILY—The compound equalizing wedges are released with the first turn of the stem and permit easy withdrawal of the discs.

WEARS EVENLY—Each operation causes discs to revolve slightly, and seat in a new clean position.

STAYS TIGHT—That's what you expect of any valve, but only in a Darling will you find construction that tends to clean the discs and seat faces, facilitating a tight seat.

Before purchasing, ask some old timers what luck they have with Darlings.

## Darling Valve & Manufacturing Company

Williamsport, Pa.

New York Chicago Oklahoma City Houston

Mid-Continent Distributors:

Frick-Reid Supply Company
International Supply Company
Atlas Supply Company
Petroleum Supply Company

California Distributor:
Petroleum Equipment Company, Los Angeles

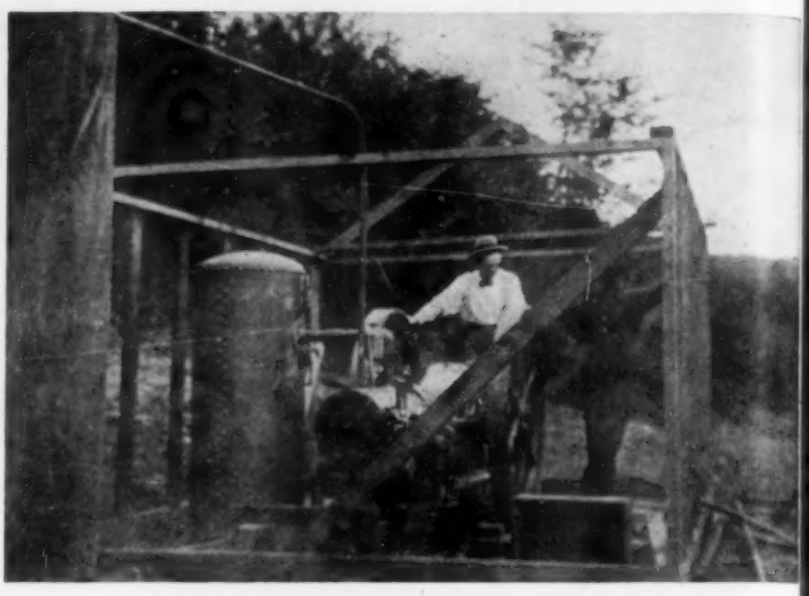
# DARLING GATE VALVES

# Using Compressed Air in Pennsylvania

Bradford, Pa.—Air has gone into the oil sands of the Bradford field. Compressed air at the rate of 112 cubic feet per minute is being forced down into the depths of the Bradford sand, 1500 feet under the surface of the earth, and the air flood is started, as an experiment in contrast to the already long standing flood of water in this field of high grade Pennsylvania crude oil.

The Knabb Oil Company, a partnership with headquarters at Warren and Bradford, are the air flooding pioneers of this field. They turned the air into the deep Bradford sand on their lease situated just beyond the southern city limits of this city, known as the Golden lease, at 1:30 o'clock, Thursday, August 20.

This lease is a 110 acre tract in which a water flood has been working for some time. The well down into which the air is being forced is situated in about the middle of the tract. Production at the present time is slightly under forty barrels of oil a day.



Showing arrangement for using compressed air in the Bradford field. At extreme right is th casinghead. Air tanks at left of engine. Water tank at extreme left.

An 11 x 12, 20 horsepower compressor engine, The Bradford Improved, manufactured by R. A. Dresser's Combination Engine and Compressor Company, Inc., of Bradford, equipped with a Wico magneto is the equipment used. The compressor is hooked up to an air tank, capable of standing a pressure up to 100 pounds, from which the air passes into the casing head of the well. The tubing has been left in the hole and a packer put in above the sand. A low pressure of from 25 to 40 pounds of air is being kept on the well.

Advantages expected to result from the air flooding, besides increasing production, include among other things, the cutting down of drilling in the field almost half. It is said that the air also, will not flood out the rock, thus ruining the leases in time, as is the case with water. The air will put a pressure on the rock, and will stop up the water already in the sand, from spreading, by forming a regular bank or barrier against it whenever the air and water come in contact.

Air flooding has been and is being used with unusual success in the Oklahoma district in the west, and in th Lower field, which includes the Tid oute, Tionesta, and Grand Valley sec tions, here in the Pennsylvania oil dis trict, but this is the first time it ha ever been tried in the Bradford field In the Lower field, it is estimated a having increased production from 10 per cent up as high as 300 and 400 pe cent.

Rear view of hook-up for using compressed air in the Bradford field.

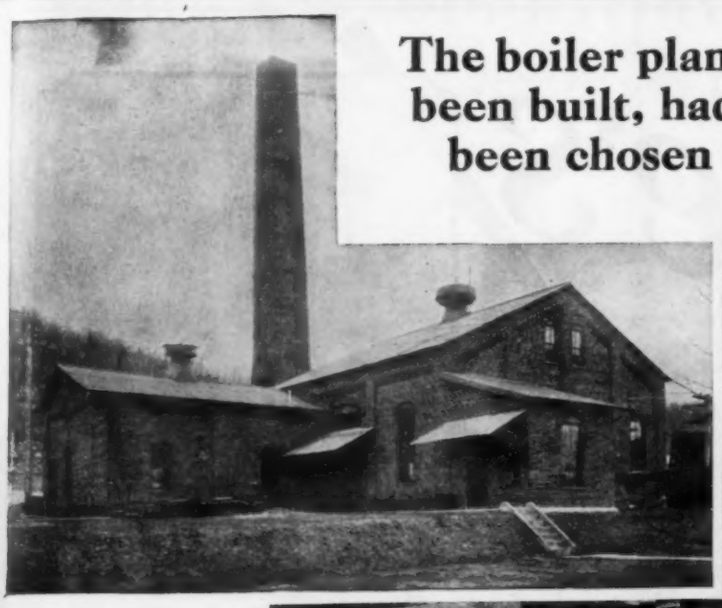
## Wagner on Trip

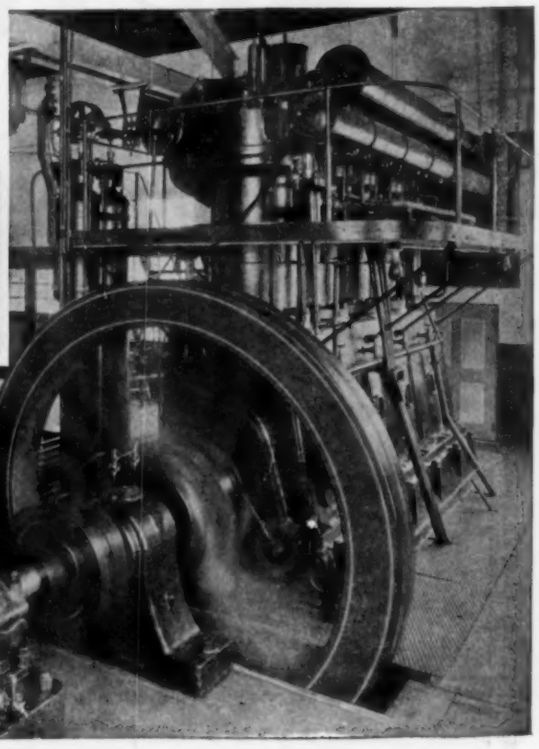
Leaving Los Angeles several week prior to the opening of the Internation al Petroleum Exposition at Tulsa i order to visit the Wyoming fields Chas. Wagner, General Sales Manage of Axelson Machine Company, expect to arrive in Tulsa on October 1st an will be joined by J. C. Axelson wh will go direct to Tulsa from Los An geles in time for the opening of th exposition.

During the Exposition an Axelso Sales Organization meeting will b held in Tulsa and will be attended b approximately twelve field representa tives from different parts of the Mid Continent and Eastern oil districts Mid-Continent Manager, Plattenber will be in charge of the exposition ex hibit.

According to Mr. Wagner, the firm new catalog which has been in th course of production for sever months, will be distributed at the ex position. This catalog embodies man new ideas and shows a number of lat improvements in Axelson pumps.

# The boiler plant here need never have been built, had Diesel Engine power been chosen first instead of later!







THE boiler house shown was built 200 feet from the pumping station which it served, the separation being necessary for fire protection. Notwithstanding the excellence of the combined plant as compared to other steam-driven pumping plants, the owners found it to their advantage to abandon steam in favor of the 400-b. h. p. Diesel Engine shown in the larger picture. The steam plant is now shut down and kept only as a standby until more Diesel power is installed.

Had Diesel power been chosen in the first place, the investment for the boiler plant would have been saved, and all boiler maintenance expense would have been eliminated. The attendance cost would also have been much lower, due to the elimination of coal and ash handling.

Diesel plants require only one-sixth to one-third as much fuel as equivalent steam plants, and Diesel economies hold good over the widest load range. Further, these advantages are sustained throughout useful life, and as no McIntosh & Seymour Diesel Engine has yet become obsolete, this life is all that could be asked.

Therefore, figure on Diesel power from the start, and you won't have to come to it later. Let our Engineers submit practical suggestions, interesting performance data, and liberal guarantees.

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# McINTOSH & SEYMOUR DIESEL ENGINES

38

# Here's

## ~to the Old Timer

**If you take a trip around the oil fields whose ages are measured in years instead of months, you will find Ajax Engines whose owners can't begin to tell you how old they are. Frequently they were bought second hand. Nevertheless they are still on the job and apparently good for many more years of service.**

**These old timers are still good engines, but the Ajax you buy today is a better engine and when you are through using it, we hope a good many years hence, your heirs can still count it as one of the quick assets of your estate.**

Genuine Ajax Replacement parts maintain the original value and efficiency of your engines. A complete stock is carried at all National Supply Company branches.

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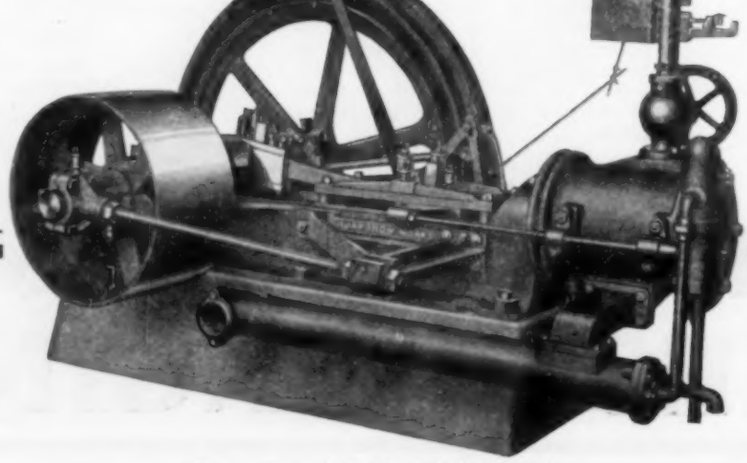
In Every Oil Field

*Insist Upon Genuine Ajax Replacement Parts*



AJAX ENGINES

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# Many Factors Involved in Pumping Deep Wells

## Much room for improvement in surface equipment within reach of present day technique

*By F. G. D. Muller*
*Houston, Texas*

IT has been estimated that of all the producing wells in this country, fully nine-tenths of this number produce by pumping.

In the early days of the industry all wells were pumped on the beam after they ceased flowing. The standard type of equipment used in drilling a well was usually left in place for use in pumping, the pulling of rods and tubing, and for cleaning out purposes. On the whole there has been very little change in this equipment since the beginning of the industry and even where a well is drilled with the rotary, the pumping rig, which is installed when it becomes necessary to pump the well, is a true copy of the old standard rig.

As a matter of fact there has been no change in the method of pumping a well except that a higher grade of material is available today of which sucker rods and tubing are made. Later in order to reduce the cost of pumping a number of wells, the pumping power was developed. The adaptability of this manner of pumping a well, of course, depends on the depth of the well, the frequency of pulling jobs, the distance between wells and the contour of the field.

**Deeper Drilling Offers Problem**

The ever increasing depth to which wells are being drilled makes the pumping of such wells, after they cease flowing, an exceedingly difficult matter.

It is well known to operators that in a pumping well a considerable portion of the stroke is lost due to stretch in the rods and the tubing. It is also a fact that with increase in depth, the load on the rods becomes more severe and rod troubles are often encountered that may be traced back:

1. Rods too small in diameter for the load to be taken care of.
2. Running too high a speed resulting in dynamic forces being set up in the rods, causing them to break.

The author has analyzed different forces acting on rods and the tubing of a pumping well and also the effect of these forces on the length of the stroke of the traveling valve or pump plunger.

To overcome the above objectionable features the use of the long stroke type pumping unit is strongly recommended and suggestions are offered for better balancing of beam wells. This will alleviate the load on the pumping mechanism and cause a more equal distribution of power during the revolution of the crankshaft.

**As the present tendency toward deeper drilling gains impetus more thought and consideration has been required in bringing oil to the surface from these lower producing horizons. Increased depths have found past methods of operation inadequate to the extent that the past few years have seen a complete change in our pumping and flowing methods.**

**Mr. Muller, the author of the accompanying article, has had considerable experience in this phase of field work having spent much time in the employ of the large operating companies in both this and foreign countries. He is now connected with the General Machine Works, Houston, Texas. Acknowledgment is made by the author to Mr. S. E. Manning for the information on the Lufkin Pumping Unit.—The Editor.**

A detailed description of what actually happens to sucker rods and tubing in a pumping well bring out clearly the difficulties that are encountered and have to be taken care of in deep well pumping.

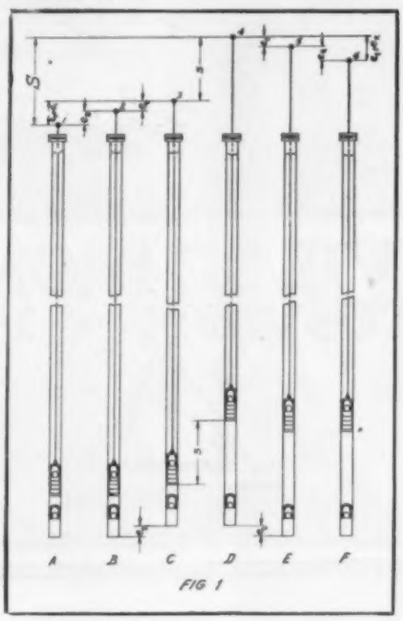

FIG 1

It is clear that the load due to weight of the fluid in the tubing is carried alternatively by sucker rods and tubing. On the upstroke of the rods the ball in the traveling valve closes and the fluid load is transmitted to the rods. On the down stroke the ball in the traveling valve opens and the ball in the standing valve closes. This puts the weight of the fluid column on the standing valve, through which the load is transmitted to the tubing.

Referring to Fig. 1 the following is a description of events in cyclic order as they occur during one revolution of the crankshaft.

At "A" the traveling valve and the polished rod are shown at the bottom of their stroke just after having completed the down stroke. The load of the fluid is carried by the tubing and there is no load on the rods except that of their own weight. As stated before, the weight of the fluid will come on the rods during the upstroke which will cause the rods to stretch, see "B". The polished rod will move from position 1 to 2 while the traveling valve remains stationary. The difference, $e_r$, represents the amount of stretch in the rods due to the load of the fluid and whatever this amount is, means that much loss in stroke. The rods will then cease stretching and when that point is reached the greater part of the load, due to the weight of the fluid, is taken over from the tubing by the rods.

The load being released from the tubing, will cause it to contract and when the polished rod moves from position 2 to 3, the lower end of the tubing will follow the plunger in its upward course until all the stretch, due to the greater part of the weight of the fluid, is coming off of the tubing and a position as shown in "C" is reached. The amount of travel, $e_t$, is also lost stroke because the relative position between the traveling valve and the standing valve did not change during the last movement.

The next movement of the polished rod is from 3 to 4 equal to s and represents the actual amount of travel of the traveling valve. The end of the up stroke is shown in "D". On the down stroke (see "E") the load will again be placed on the tubing and will cause it to stretch, during which the relative position between the traveling valve and the standing valve remains con-

# SMOOTH

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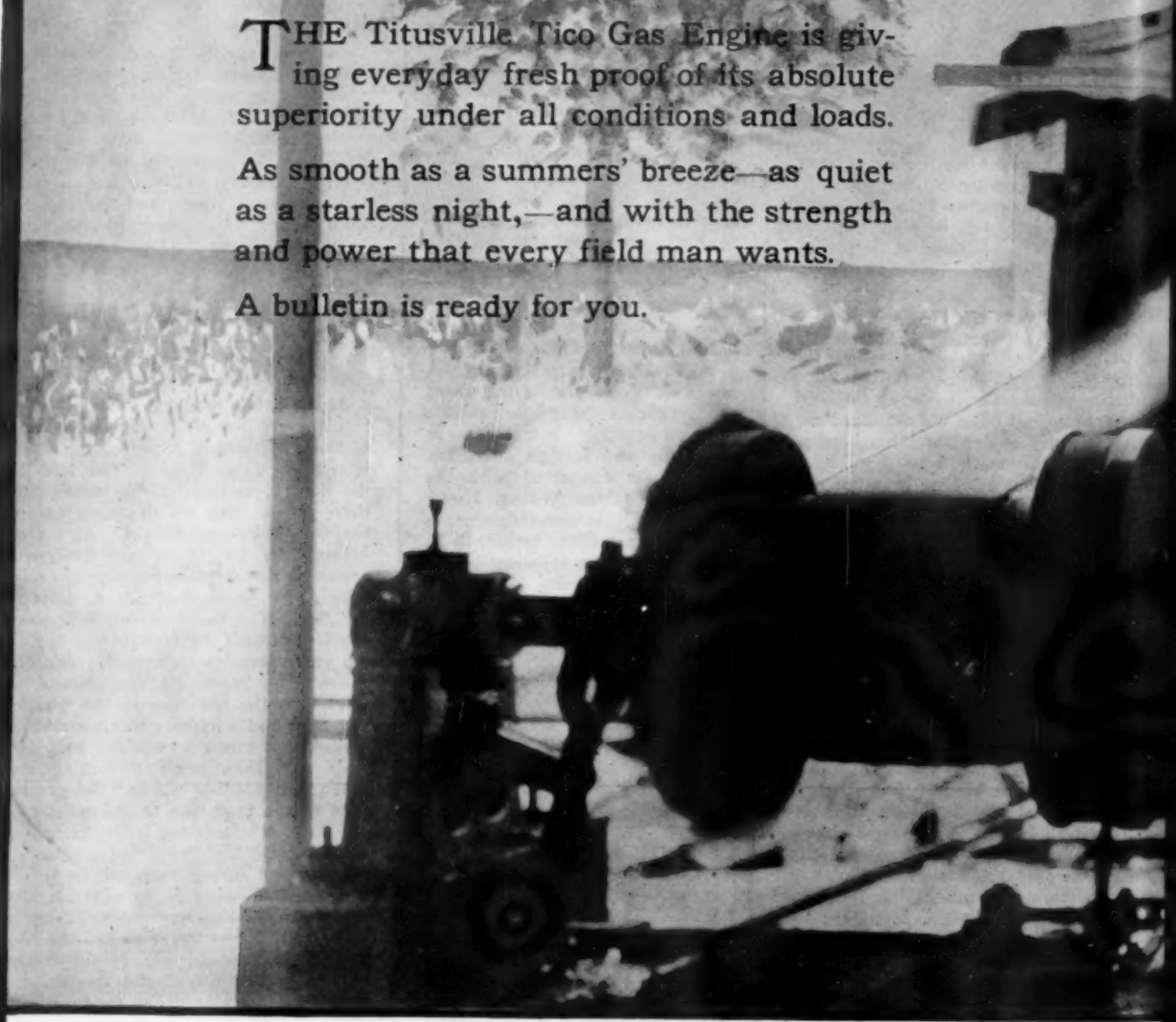

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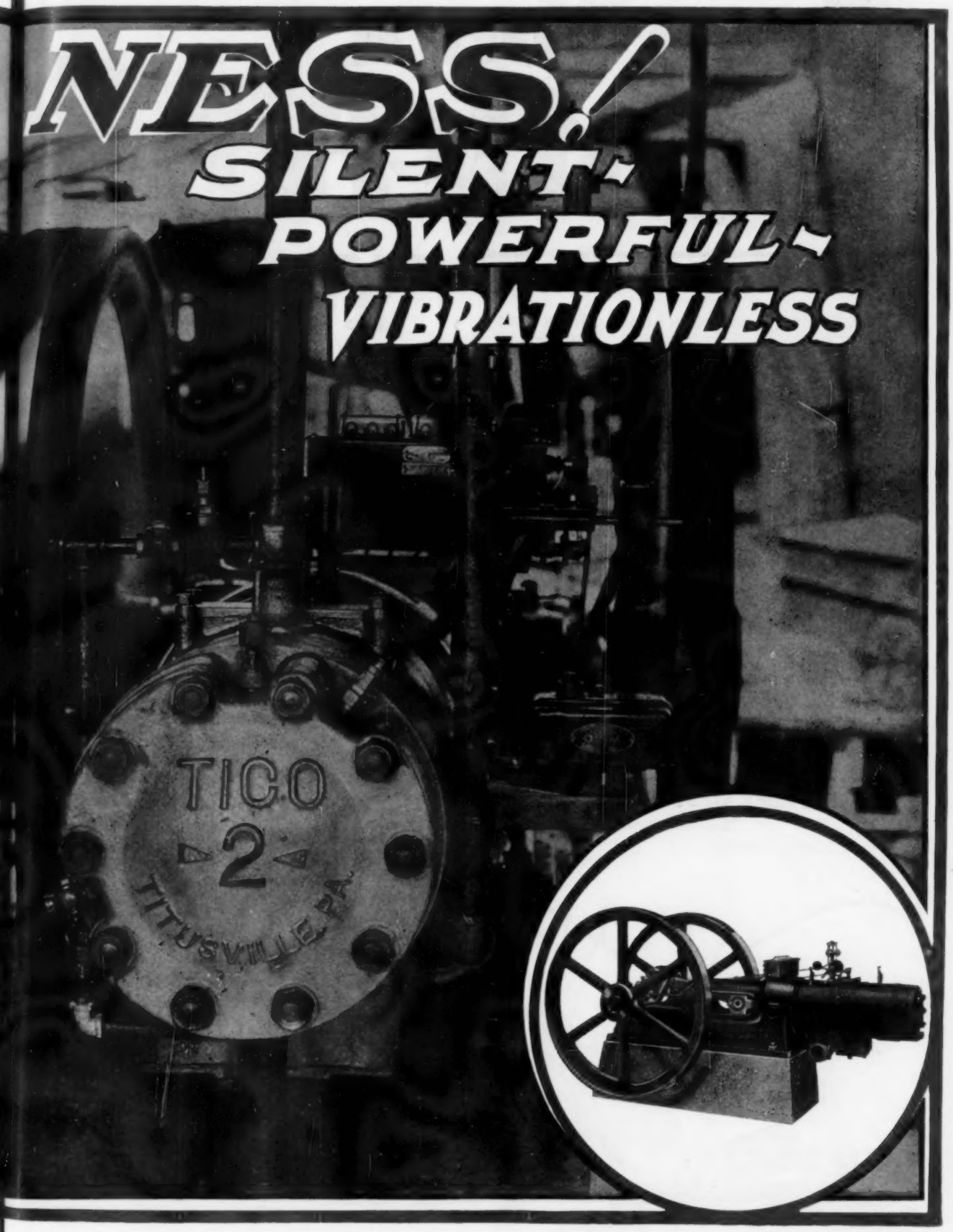


*Say you saw it in The OIL WEEKLY*

# Have You a Bootlegger on Your Lease

There is always someone hunting for a bootlegger—either a customer or a FEDERAL officer.

But it will be useless to hunt for a bootlegger on *your* lease if you equip your belts with Federal Belt Clamps—as they eliminate bootlegging.

The FEDERAL BELT CLAMP is so designed that "the Curve on the Clamp fits the Crown on the Pulley" and PREVENTS Bootlegging.

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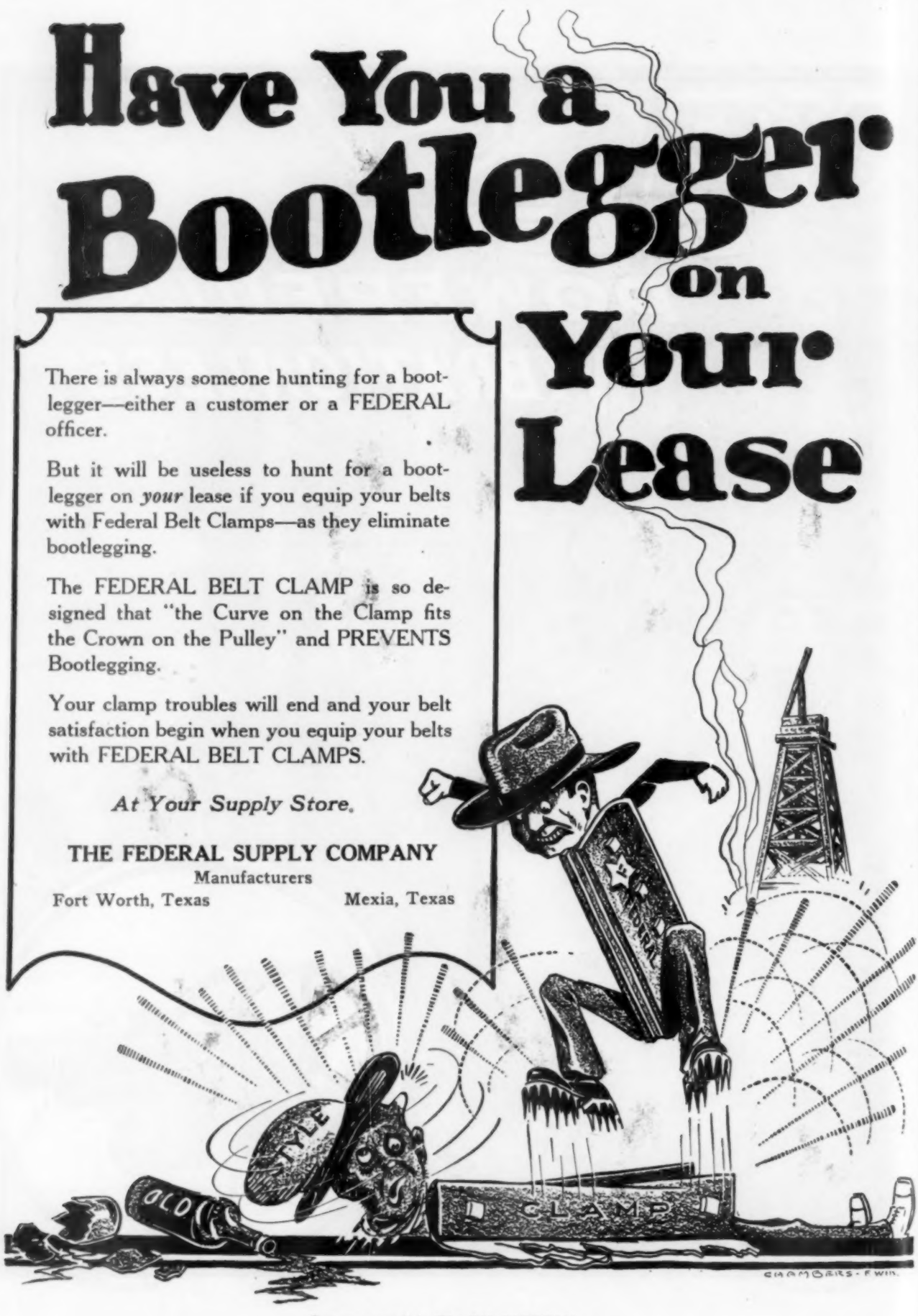

Fig. 2
The Texas Company's Long Stroke Jack

stant. The difference between 4 and 5 represents the stretch in the tubing and is again equal to $e_t$. When the tubing takes over the load, the rods will be relieved causing them to contract. The polished rod will drop from 5 to 6 and $e_r$ represents the contraction in the rods. During this contraction the distance between the traveling and the standing valve will remain unchanged. This is shown in "F".

Upon a further downward movement of the polished rod the traveling valve will go down a like amount until a position is reached as shown in "A", which completes the cycle.

For the sake of clearness, the stretching of the rods and the contraction of the tubing and the stretching of the tubing and the contraction of the rods are dealt with as though these occurred separately. In reality of course stretching of the rods and contraction of the tubing or vice versa, occur at the same time, but this does not change the ultimate result and provides a way for arriving at some definite data on the loss of travel due to the above mentioned causes.

The amount of stretch in a string of rods or tubing depends upon the following factors:

1. The cross sectional area of the string.
2. The length of the string.
3. The terminal load due to the weight of the fluid.
4. The weight per foot of the material of which the string is made.

The following formulas that have been worked out to arrive at the loss of stroke are based on Hooke's law, which states that within the elastic limit, the deformation produced is proportional to the stress. It has also been assumed that the hole is straight and the effect of the dynamic load on the stroke of the traveling valve or plunger has been discounted. The result of the calculations is therefore on the conservative side and where a well is drilled crooked, the amount of lost stroke is more than that obtained from the formula.

The symbols used in the formulas have the following meaning:

$e_1$ Total elongation of the rods in inches due to their own weight and the terminal load due to the fluid.

$e_2$ Elongation of the rods in inches due to their weight only.

$e_r = e_1 - e_2$ Loss of stroke in inches due to the elongation of the rods by the weight of the fluid.

l Actual length of rods and tubing in inches.

L Actual length of rods and tubing in feet.

$A_r$ Cross sectional area of rods in square inches.

$A_t$ Cross sectional area of tubing in square inches.

$G_r$ Weight of the string of rods in pounds.

$G_t$ Weight of the string of tubing in pounds.

E Modulus of elasticity of steel = 30,000,000.

$e_3$ Total elongation of tubing in inches due to its own weight and the terminal load due to the fluid.

$e_4$ Elongation of tubing due to its own weight and part of the fluid.

$e_t = e_3 - e_4$ Loss of stroke in inches due to elongation of the tubing by the weight of the fluid.

$P_1$ Load in pounds due to the weight of the fluid in tubing.

$P_2$ Load in pounds due to the weight of the fluid supported by the traveling valve or the plunger.

Referring again to Fig. 1, sub "B", the total elongation of the string of rods may be expressed by the following formula:

$$e_1 = [P_2 l + \frac{G_r l}{2}] / A_r E \qquad (1)$$

In Fig. 1, sub "A" the rods were stretched already due to their own weight and this amount of stretch may be expressed by:

$$e_2 = \frac{G_r l}{2} / A_r E \qquad (2)$$

Subtracting formula (2) from (1) gives us

$$e_1 - e_2 = e_r = \frac{P_2 l}{A_r E} \qquad (3)$$

which is the amount of stretch or lost stroke due to the load of the fluid coming on the rods and this is shown in the illustration by the difference in position of the polished rod at 1 and 2.

A similar way of reasoning is applied to find the amount of lost stroke due to contraction of the tubing.

In Fig. 1, sub "B" the total elongation in the string of tubing is:

$$e_3 = [P_1 l + \frac{G_t l}{2}] / A_t E \qquad (4)$$

In "C" the tubing is relieved by a load equal to $P_2$ and the amount of stretch in the tubing in that position of the traveling valve may be expressed by the following formula:

$$e_4 = [(P_2 - P_2) 1 + \frac{G_t l}{2}] / A_t E \qquad (5)$$

Subtracting formula (5) from (4) gives us

$$e_3 - e_4 = e_t = \frac{P_2 l}{A_t E} \qquad (6)$$

which is the amount of contraction or lost stroke due to the greater part of the fluid load coming off of the tubing and this is represented in the illustration by the difference in position between the lower end of the barrel at "B" and "C" or the difference in position of the polished rod at 2 and 3 which is the same.

To find the total loss of stroke due to both the stretch of the rods and the contraction of the tubing it is only necessary to add formula (3) to formula (6) which gives

$$e_r + e_t = \frac{P_2 l}{A_r E} + \frac{P_2 l}{A_t E} = \frac{P_2 l \,(A_t + A_r)}{30{,}000{,}000\; A_r\, A_t} \qquad (7)$$

or taking the lengths of the rods and tubing in feet, the amount of lost stroke in inches will be

$$\frac{P_2 L}{2{,}500{,}000} \times \frac{(A_t + A_r)}{A_t\, A_r} \qquad (8)$$

In order to facilitate the use of the above formula the following tables have been prepared showing the values of

$$P_2 \text{ and } \frac{(A_t + A_r)}{A_t\, A_r}$$

covering a range of conditions usually encountered in oil field practice.

**Table 1**
**External Upset Tubing**

| Size and Weight Inches | Lbs. | Sucker rods Inch | Value of $\frac{(A_t+A_r)}{A_t\, A_r}$ |
|---|---|---|---|
| 2 x | 4.000 | ½ | 5.96 |
| 2 x | 4.000 | ⅝ | 4.12 |
| 2 x | 4.000 | ¾ | 3.12 |
| 2 x | 4.500 | ½ | 5.85 |
| 2 x | 4.500 | ⅝ | 4.03 |
| 2 x | 4.500 | ¾ | 3.03 |
| 2½ x | 6.250 | ½ | 5.64 |
| 2½ x | 6.250 | ⅝ | 3.81 |
| 2½ x | 6.250 | ¾ | 2.81 |
| 3 x | 8.627 | ½ | 5.50 |
| 3 x | 8.627 | ⅝ | 3.66 |
| 3 x | 8.627 | ¾ | 2.67 |
| 4 x | 12.500 | ⅝ | 3.90 |
| 4 x | 12.500 | ¾ | 2.54 |
| 4 x | 12.500 | ⅞ | 1.86 |
| 4 x | 12.500 | 1 | 1.55 |

**Oil Well Tubing**

| Size and Weight Inches | Lbs. | Sucker rods Inch | Value of $\frac{(A_t+A_r)}{A_t\, A_r}$ |
|---|---|---|---|
| 2 x | 4.000 | ½ | 5.96 |
| 2 x | 4.000 | ⅝ | 4.12 |
| 2 x | 4.000 | ¾ | 3.12 |
| 2 x | 4.500 | ½ | 5.85 |

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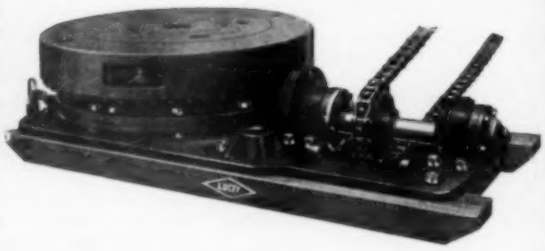

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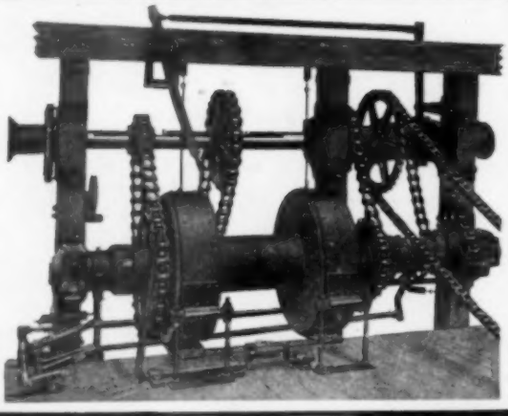

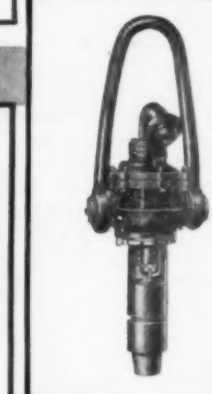

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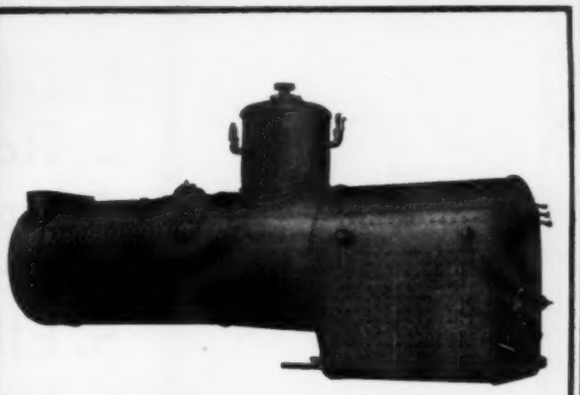

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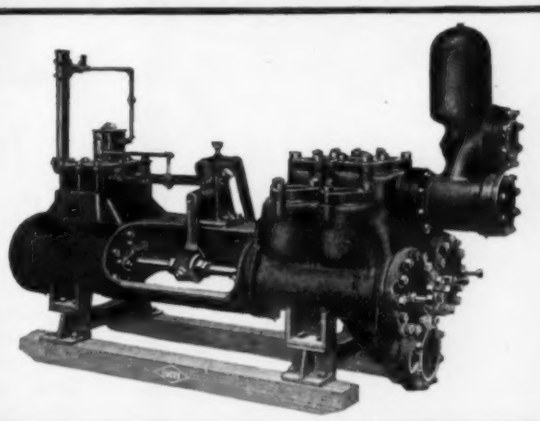

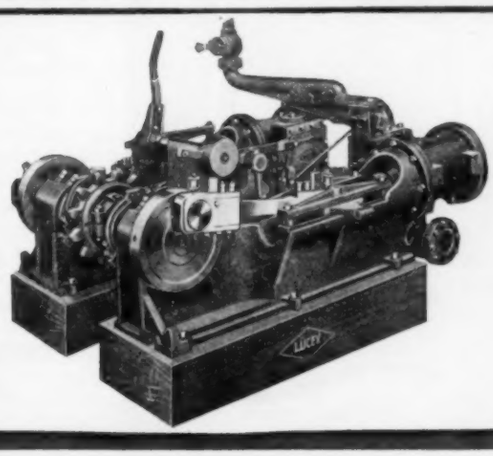

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**Fig. 3—Suman Pumping Jack, Saratoga, Texas**

| | | |
|---|---|---|
| 2 x 4.500 | 5/8 | 4.03 |
| 2 x 4.500 | 3/4 | 3.03 |
| 2½ x 5.899 | ½ | 5.68 |
| 2½ x 5.899 | 5/8 | 3.84 |
| 2½ x 5.899 | 3/4 | 2.85 |
| 2½ x 6.25 | ½ | 5.64 |
| 2½ x 6.25 | 5/8 | 3.81 |
| 2½ x 6.25 | 3/4 | 2.81 |
| 3 x 7.690 | ½ | 5.55 |
| 3 x 7.690 | 5/8 | 3.71 |
| 3 x 7.690 | 3/4 | 2.71 |
| 3 x 8.500 | ½ | 5.50 |
| 3 x 8.500 | 5/8 | 3.66 |
| 3 x 8.500 | 3/4 | 2.67 |
| 3 x 10.000 | ½ | 5.45 |
| 3 x 10.000 | 5/8 | 3.60 |
| 3 x 10.000 | 3/4 | 2.58 |
| 4 x 10.980 | 5/8 | 3.58 |
| 4 x 10.980 | 3/4 | 2.58 |
| 4 x 10.980 | 7/8 | 1.97 |
| 4 x 10.980 | 1 | 1.59 |
| 4 x 11.750 | 5/8 | 3.56 |
| 4 x 11.750 | 3/4 | 2.56 |
| 4 x 11.750 | 7/8 | 1.96 |
| 4 x 11.750 | 1 | 1.57 |

**California D. B. X. Casing**

| Size and Weight Inches Lbs. | Sucker rods Inch | Value of $\frac{(A_t+A_r)}{A_t A_r}$ |
|---|---|---|
| 4½ x 16.000 | 3/4 | 2.48 |
| 4½ x 16.000 | 7/8 | 1.88 |
| 4½ x 16.000 | 1 | 1.49 |
| 4¾ x 12.850 | 3/4 | 2.53 |
| 4¾ x 12.850 | 7/8 | 1.93 |
| 4¾ x 12.850 | 1 | 1.54 |
| 4¾ x 15.000 | 3/4 | 2.50 |
| 4¾ x 15.000 | 7/8 | 1.89 |
| 4¾ x 15.000 | 1 | 1.50 |

The load $P_2$ referred to above is the fluid load on the traveling valve or the plunger and is equal to the inside area of the working barrel minus the cross sectional area of the sucker rods, multiplied by the presssure per square inch. Table 2 has been worked out and gives the values of $P_2$ for 1000 feet for different size working barrels and sucker rods. For any other depth than 1000 feet, divide the desired depth by 1000 and multiply the result by the tabulated figure. The pressure of 1 foot of fluid column is taken as .434 pounds per square inch which is the same as for water. If the fluid is pure oil or if the gravity is known, multiply the tabulated figure with the specific gravity of the oil.

**Table 2**

**Values of $P_2$ for 1000 Ft. Depth of Well**

| Rods In. | 1¼" Cups | 2¼" Cups | 2¾" Cups | 3¼" Cups | 3¾" Cups | 4¼" Cups |
|---|---|---|---|---|---|---|
| ½ | 958 | 1641 | 2493 | 3515 | 4708 | .... |
| 5/8 | 910 | 1590 | 2440 | 3480 | 4660 | 6020 |
| ¾ | 855 | 1535 | 2385 | 3405 | 4605 | 5965 |
| 7/8 | 780 | 1470 | 2320 | 3340 | 4530 | 5900 |
| 1 | 700 | 1390 | 2240 | 3260 | 4450 | 5820 |

In order to show the practical use of the foregoing formula the following example has been worked out. Suppose we want to find the loss of stroke of the traveling valve in a 1¾-inch working barrel at the end of a string of 2-inch x 4.500 lb. tubing. The diameter of the sucker rod is 5/8-inch.

In table 2 we find the value for $P_2$ for 5/8-inch rods and 1¾-inch cups to be 910 lbs. for every 1000 feet. For 2500 feet the value of $P_2$ is 2.5 x 910 lbs = 2275 lbs. In Table 1 the value for $(A_t+A_r)/A_t A_r$ is found as 4.03 for the given conditions, and substituting these values in the formula the loss of stroke is:

$$\frac{2275 \times 2500}{2{,}500{,}000} \times 4.03 = 8.16\text{-in.}$$

As mentioned before, the loss of stroke is that due to the static load only. The inertia force required to start the rods and the fluid has been left out of consideration, since it is almost impossible to calculate the acceleration of the traveling valve or the plunger in the working barrel, for the following reasons:

1. Because the crank of the bandwheel that drives the walking beam does not rotate at a constant rate of speed.

2. Because it can not be ascertained what effect the resiliency of the rods has on the acceleration of the traveling valve. The figures obtained give a very good idea, however, of what may be expected to occur under certain conditions.

Another important feature well worth looking into is the load and the stress per square inch to which the sucker rods are subjected in a pumping well. Many fishing jobs and a lot of rod trouble can be prevented by selecting the right size of rods for a pumping well. This applies especially to deep wells, where large quantities of fluid are handled by a large size working barrel.

It is evident that the static load is greatest during the upstroke of the rods. In this case the load on the first rod figured from the top of the well is equal to the weight of the string of rods plus the weight of the fluid column supported by the traveling valve or plunger. The latter is found from Table 2.

Table 3 has been prepared showing the total load and the stress in the uppermost sucker rod for every 1000 feet of depth. The pressure due to one foot of fluid is taken as .434 lbs. per square inch, the same as for water.

**Table 3**

| Rods | 1¾" Cups | 2¼" Cups | 2¾" Cups | 3¼" Cups | 3¾" Cups | 4¼" Cups |
|---|---|---|---|---|---|---|
| ½" Load | 1710 | 2390 | 3240 | 4265 | 5458 | .... |
| Stress | 8720 | 12190 | 16540 | 21750 | 27840 | .... |
| 5/8" Load | 2020 | 2700 | 3550 | 4580 | 5770 | 7130 |
| Stress | 6590 | 8810 | 11590 | 14920 | 18800 | 23250 |
| ¾" Load | 2480 | 3160 | 4010 | 5030 | 6230 | 7590 |
| Stress | 5600 | 7150 | 9080 | 11390 | 14090 | 17200 |
| 7/8" Load | 3030 | 3720 | 4570 | 5590 | 6780 | 8150 |
| Stress | 5040 | 6180 | 7600 | 9300 | 11280 | 13550 |
| 1" Load | 3600 | 4290 | 5140 | 6160 | 7350 | 8720 |
| Stress | 4590 | 5450 | 6540 | 7840 | 9360 | 11100 |

Note: For any other depth than 1000 feet, divide the desired depth by 1000 and multiply by the tabulated figure.

To the static load on the upstroke of the rods must also be added the dynamic force required to overcome the inertia of the fluid and the rods, which force is greatest at the beginning of the upstroke.

The magnitude of the dynamic force depends upon the weight and the acceleration of the reciprocating rods and the fluid. The acceleration in turn is depending upon the radius and speed of the crank and the ratio between the length of the connecting rod and the crank.

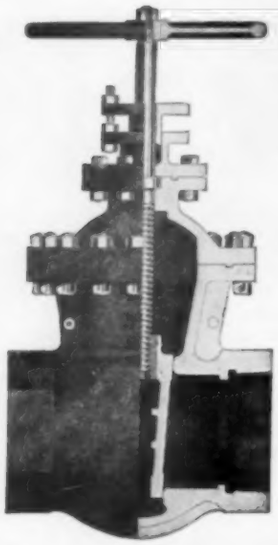
The acceleration imparted to the rods by the crank of a standard rig may be expressed by the following formula:

$$p = \frac{V^2}{R}\left(\text{Cos. a} \pm \frac{R}{L}\text{ Cos. 2a}\right) \qquad (9)$$

where:

p = acceleration in feet per second.
R = radius of the crank in feet.
V = circumferential velocity of the crank pin in feet per second.
L = length of the connecting rod in feet.
a = angle of the crank with the upper dead center.

The plus sign should be used to find the acceleration at the beginning of the down stroke of the pitman (upstroke of the rods), and the minus sign should be used at the beginning of the upstroke of the pitman (downstroke of



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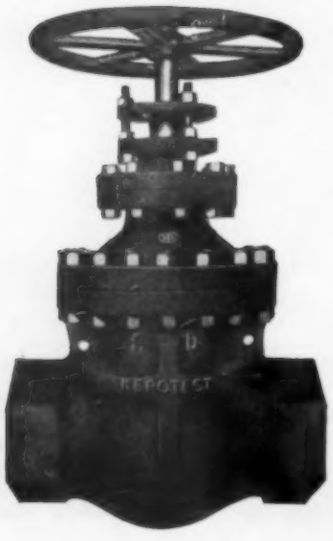

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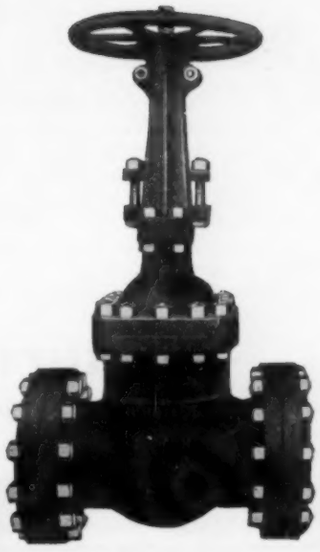

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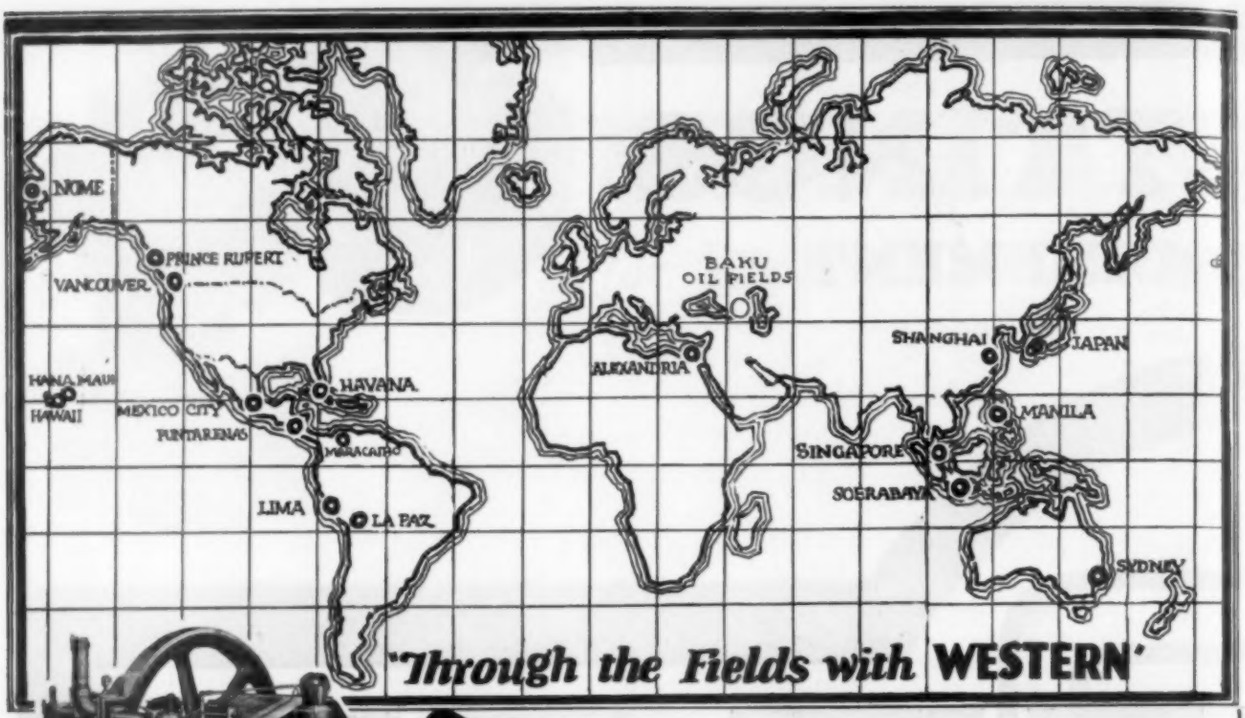

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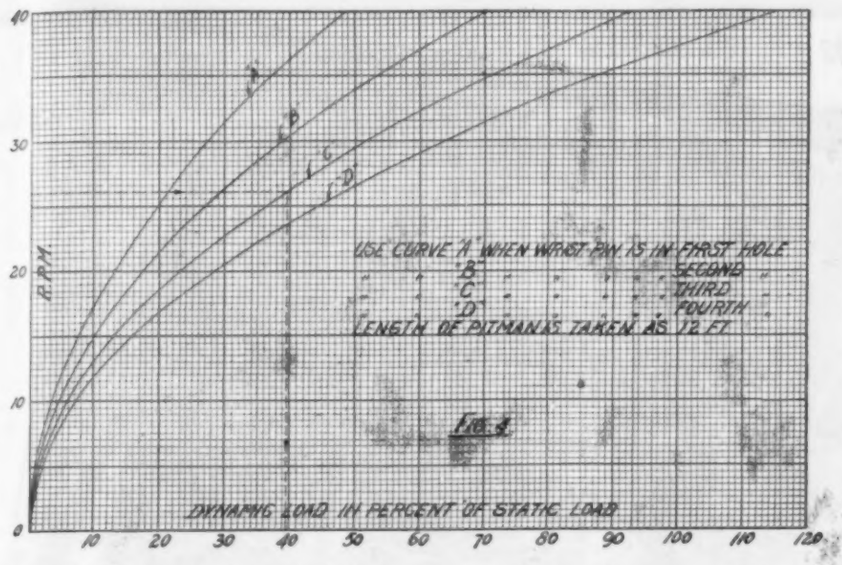

FIG. 4.

the rods). From the foregoing it is at once apparent that the acceleration is greatest at the beginning of the upstroke of the rods, when a = zero and Cos. a = 1. This means that the dynamic load has its maximum value at that point of the stroke. The dynamic load may be obtained by using the following formula:

$$F = \frac{P}{32.16} \times p \qquad (10)$$

where:

F = dynamic load in pounds.
$P_s$ = static load in pounds.
32.16 = acceleration of gravity in feet per second.
p = acceleration of the rods in feet per second.

Because the static load on the rods is greatest on the upstroke, and the dynamic load greatest at the beginning of the upstroke of the rods, it follows that the greatest stress on the rods will be when the crank passes through its upper dead center.

The crank is an ideal medium to transform a circular into a reciprocating motion, in this respect that it will start moving the rods slowly at the beginning of the stroke, the velocity reaching a maximum when the pitman is at right angles to the crank and from there on the rods will gradually slow down in speed until the other dead center is reached.

The only objectionable feature against the present arrangement of the standard rig is that the percentage to be added to the static load to overcome the inertia is greatest when the static load is also at its maximum. It would be far better if conditions were reversed; that is, to have the percentage of dynamic force as small as possible, when the static load is greatest. This can be done by placing the crank between the well and the Samson post. With this kind of an arrangement the acceleration and consequently the dynamic force will be smaller on the upstroke of the rods than would be the case with the present arrangement, thereby reducing the strain in the rods.

The Texas Company, in designing its long stroke pumping unit (see Fig. 2), placed the connecting rod between the well and the crank. The same was done with Suman's pumping jack, shown in Fig. 3. In both cases the dynamic load on the rods is smallest when the static load is at a maximum, and in both designs the objectionable features of the ordinary standard rig have been completely done away with. Suman's pumping jack has the additional advantage of being simpler in construction, cheaper to install, and has a lower rate of depreciation than the ordinary standard rig.

To find the dynamic load on the rods of a well that's pumping on the beam, the writer has prepared a chart (Fig. 4), showing the dynamic load in per cent of the static load. By using this chart in connection with Table 3, a quick and easy way has been provided to calculate the maximum load and the stress per square inch on the sucker rods. The curves are based on Formulas 9 and 10, and the length of the pitman is taken as 12 feet.

Suppose it is desired to find the maximum load and the stress on the rods of a 3000-foot well, having a 1¾-inch barrel and ⅝-inch sucker rods. The well is pumped at a speed of 26 r. p. m. with the wrist pin in the third hole.

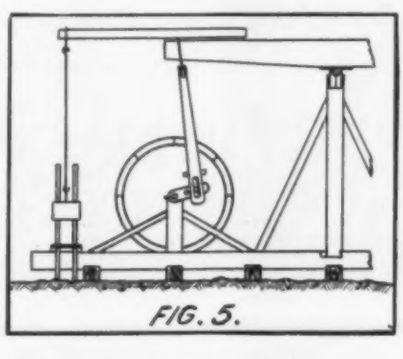
FIG. 5.

From Table 3 we find that the static load for 1000 feet is 2020 lbs., and the stress in the rods 6590 lbs. For 3000 feet the load will be 6060 lbs., and the stress per square inch in the metal of the rods 19,770 lbs.

Referring to curve "C," we find that for a well running 26 r. p. m. with the pitman in the third hole from the center, the static load has to be increased with 39½%, which gives us a total load on the rods of 1.395 x 6590 = 9193 lbs., and the stress per square inch in the metal of the rods of 1.395 x 19,770 = 27,579 lbs. The following table shows the average physical properties of sucker rod steel:

| | |
|---|---|
| Ultimate strength. | 97,000 lbs. per sq. in. |
| Yield point..... | 46,000 lbs. per sq. in. |
| Elongation in 2"... | 25% |
| Reduction in area. | 43% |

The maximum stress per square inch in the rods should not be higher than 50% of the elastic limit of the sucker rod steel. The reader will find that when applying the above data to existing installation, the stress on the rods in many cases will come dangerously close to the elastic limit of the steel. This is particularly true about wells that are pumped at a high rate of speed, and it is not surprising, therefore, that in such wells rod troubles are encountered which may be traced back to a high dynamic force.

Another subject that is often not very clearly understood is that of counterbalancing a well. It has been only a few years ago since electric power was tried for pumping oil wells, and that the saving in power by using a counterbalance could be closely calculated. It was found that by nearly balancing the weight of the rods, the reduction of power is considerable, varying with local conditions and ranging from 8 to 22 per cent and averaging about 15 per cent. This, of course, applies regardless of what kind of drive is used, and the fuel consumption can be considerably decreased by installing a counterbalance on each pumping rig.

The writer believes that by having a counterbalance that partly balances the weight of the rods is better than none at all; still better results can be obtained by slightly changing the present connection of the pitman to the walking beam. As it is now, the arrangement by which the stirrup at the upper end of the pitman is fastened to the walking beam, does not allow the end of the beam to be pushed upward, and the pitman can be used in tension only. Fig. 5 shows the present arrangement of the pitman connection to the walking beam. It would be more desirable if the pitman connection to the beam was made on the order as shown in Fig. 6. This would allow the pitman to be operated in the same manner as a connecting rod of a double-acting steam engine; or, in other words, the walking beam could be

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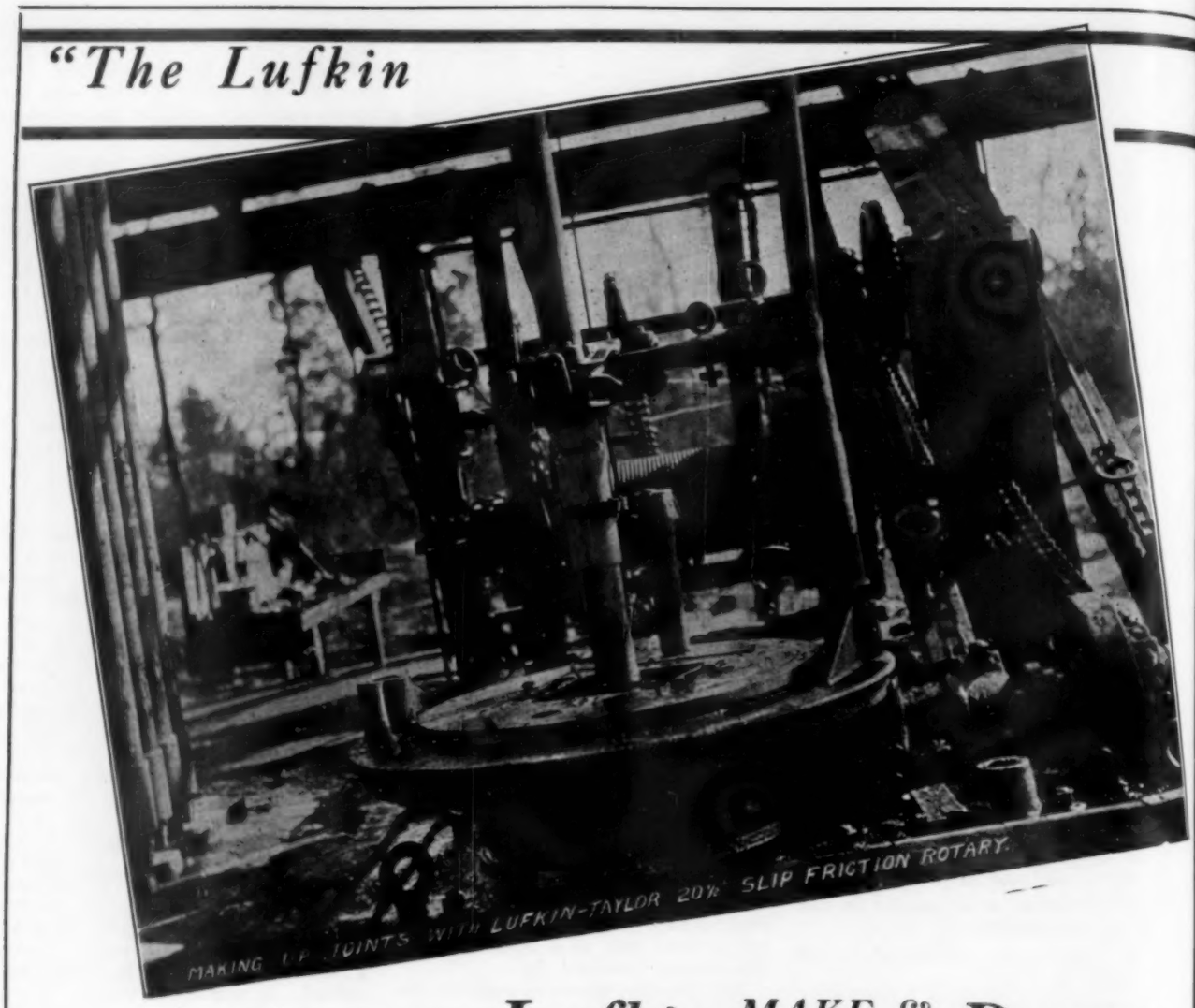


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pulled and pushed. Reasons why it is desirable to push and pull the beam instead of pulling it only, may be explained by the following:

With the present arrangement of a standard rig without a counterweight, the engine or the motor is lifting the weight of the rods plus the weight of the fluid during the upstroke of the rods, or one-half of the revolution of the crank shaft only. On the down stroke of the rods, or the other half of the revolution of the crank, the weight of the rods is transmitted through the beam, the pitman, the crank shaft, belts, etc., to the engine or the motor. A very irregular motion is the result, and the consequence is frequent breakage of the sucker rods, and also results into a high fuel or current consumption. Even if a counterweight is used as shown in Fig. 5, the rods can never be completely balanced, for if this was done there would be no force left to overcome the friction of the cups in the working barrel, the rods in the tubing, and the friction of the walking beam. At the best, the rods can therefore only be partly balanced, leaving a margin large enough to overcome the friction of the parts enumerated above, and with a counterbalance of this type the irregular motion, though to a less extent, still exists. The engine is still doing all of the work necessary to raise the oil on the upstroke only. Although it is impossible to make the crank effort constant during the course of a revolution, it can be arranged to make the push and the pull on the pitman the same on the up and down stroke, and this is obtained by using the pitman design of Fig. 6 and overbalancing the well.

To obtain the weight of a counterbalance of this type, the following formula may be used:

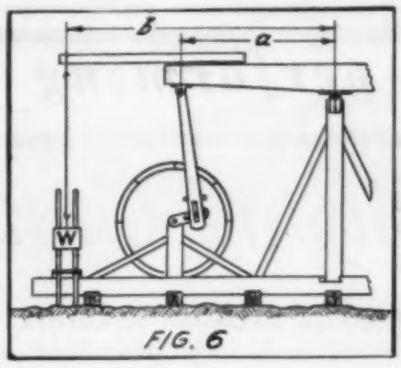

FIG. 6

$$W = \frac{a}{b}(\tfrac{1}{2} P_2 + G_2) \qquad (11)$$

where:

W = weight of the counterbalance in pounds.
a = distance in feet from the center of the pitman to the center of the Samson post.
b = distance in feet from the center of the counterweight to the center of the Samson post.
$P_2$ = weight of the fluid on the traveling valve, which may be found from Table 2.
$G_2$ = weight of the sucker rods.

In the above formula it has been assumed that the distance from the pitman to the Samson post is the same as from the center of the well to the center of the Samson post, which is usually the case.

If a well is driven by an electric motor, the size of the counterbalance can be accurately determined by observing the needle of the Watt meter. When this shows a minimum amount of variation, the well is very closely balanced. On engine-driven wells the weight can also be found very closely and without figuring by merely observing the behavior of the engine, keeping on adding to the weight until the engine runs at a steady rate of speed and doing work on the upstroke as well as on the downstroke of the rods.

As mentioned before in this article, the ever-increasing depth to which wells are drilled and have to be pumped makes it imperative that all of the above-mentioned factors entering in deep-well pumping are duly considered. It is only since the last couple of years that real improvement of oil-well pumping equipment has been made. Several long stroke devices are being marketed, most of them being modifications of the old standard rig. A pumping unit made by the Lufkin Foundry & Machine Company, shown in Fig. 7, marks a real improvement in this line, inasmuch as no band wheel, heavy foundation timbers, or an engine house is required. The speed reduction is obtained by a worm gear which is driven direct by Waukesha gas or gasoline engine. This engine also operates the hoist when it becomes necessary to pull rods or tubing. By attaching the chain from the hoisting drum to the sprocket of the worm gear, the outfit is ready for operation. The all-steel hoisting equipment takes the place of the wooden bull wheel and the bull-wheel posts of an ordinary standard rig. In the latest type pumping outfits put out by this firm, the walking beam, and also the Samson post, are made out of steel, and a unit of this type may be expected to give efficient service for a good many years.

The long stroke, slow speed pumping outfit made its appearance when it was found that deep wells can not be pumped fast with the ordinary stroke and running at a high speed. This is because the high dynamic load, which when added to the already high static load made the rods snap off, and also because practically all of the stroke of the traveling valve was lost on account of the contraction and expansion of a long string of tubing and rods. No matter how good the steel may be of which the rods are made, a short and jerky stroke will tend to crystallize and break the rods, strip or unscrew the joints.

In the long-stroke pumping outfit the industry has found a mechanism that will reduce breakage of the rods, that will pump from greater depths, and handle more fluid in barrels per day. The chief advantages that stand out prominently may be summed up as follows:

1. Increased displacement may be obtained at a slower speed.

2. Decrease of the dynamic load which will decrease the unit stress on the sucker rods.

3. A reduction of the percentage of lost travel due to the expansion and contraction of the rods and the tubing.

4. The working barrel is not liable to become gas-bound. If any gas

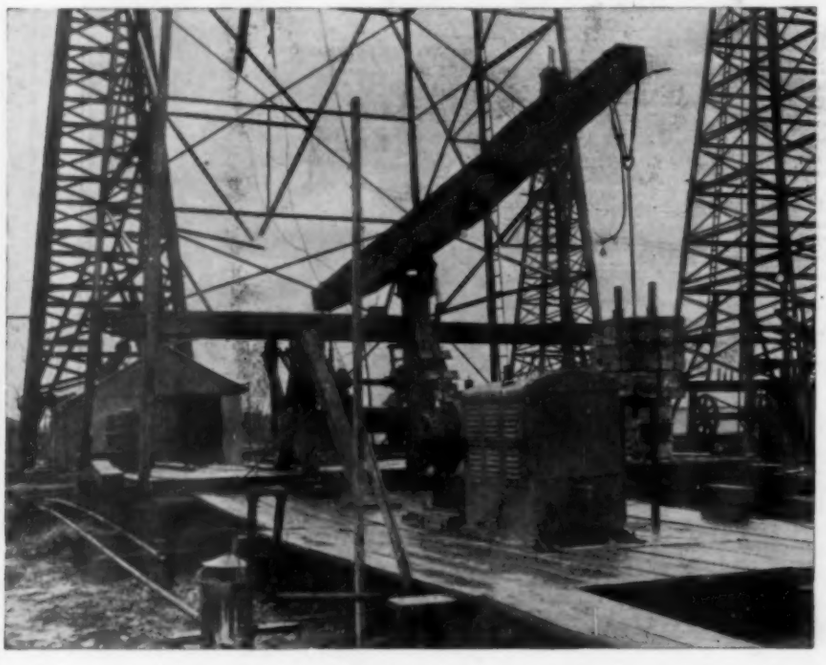
Fig. No. 7

(Continued on page 243)

What Has Been Your Experience?
Most operators, with five years' experience in the oil business, have learned that the initial price of a wooden rig isn't a drop in the bucket compared with the cost of its upkeep and periodic production losses during repairs.
Any operator who has had five years' experience with IDECOS knows that a Galvanized Structural Steel Derrick is the strongest, cheapest and most dependable rig in the field.
Driller? Manager? Stockholder? Whichever you are, IDECO is the derrick to make your work lighter and your purse heavier.
No lay-offs for the driller and his crew while repairs are being made. No pull-ins, blowdowns or fires to worry the field superintendent. Steady production and minimum maintenance to boost the company's net profits. No wonder so many large producers have planned complete IDECO Drilling Programs!
Pictured here is an IDECO 122-foot California type Derrick with safety platforms.
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STEEL IDECO DERRICKS
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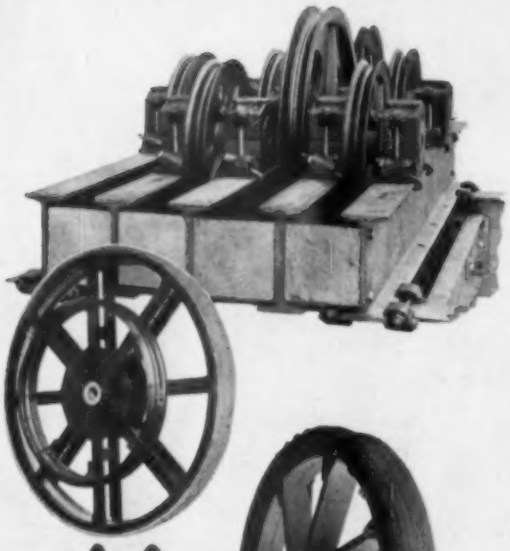

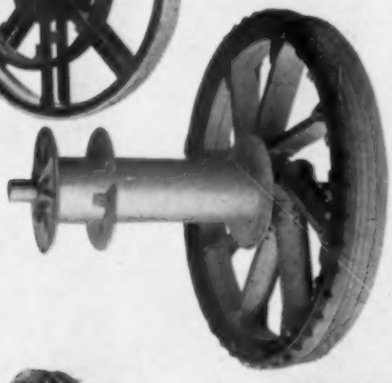

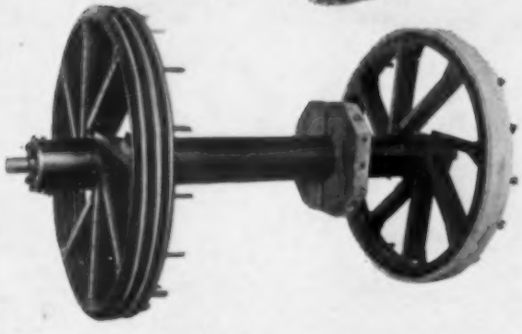

# Uninterrupted Service for a Lifetime

Oil companies that have taken pains to check up comparative endurance and economy of operation are of one opinion regarding IDECO steel equipment—"It transmits more horsepower, for a longer time, at less cost per year, and can always be relied upon in times of emergency."

That's a lot of reputation to live up to, but IDECO Crown Blocks, Walking Beams, Wheels and Pitmans are doing it day after day—year after year—wherever oil is found. Their popularity is based on the fact that every piece of IDECO equipment incorporates the combined knowledge of veteran oil men and long-experienced steel fabricators. Men in the field know exactly what they need—those in the factory know exactly what is expected of their products, and build accordingly.

**INTERNATIONAL**
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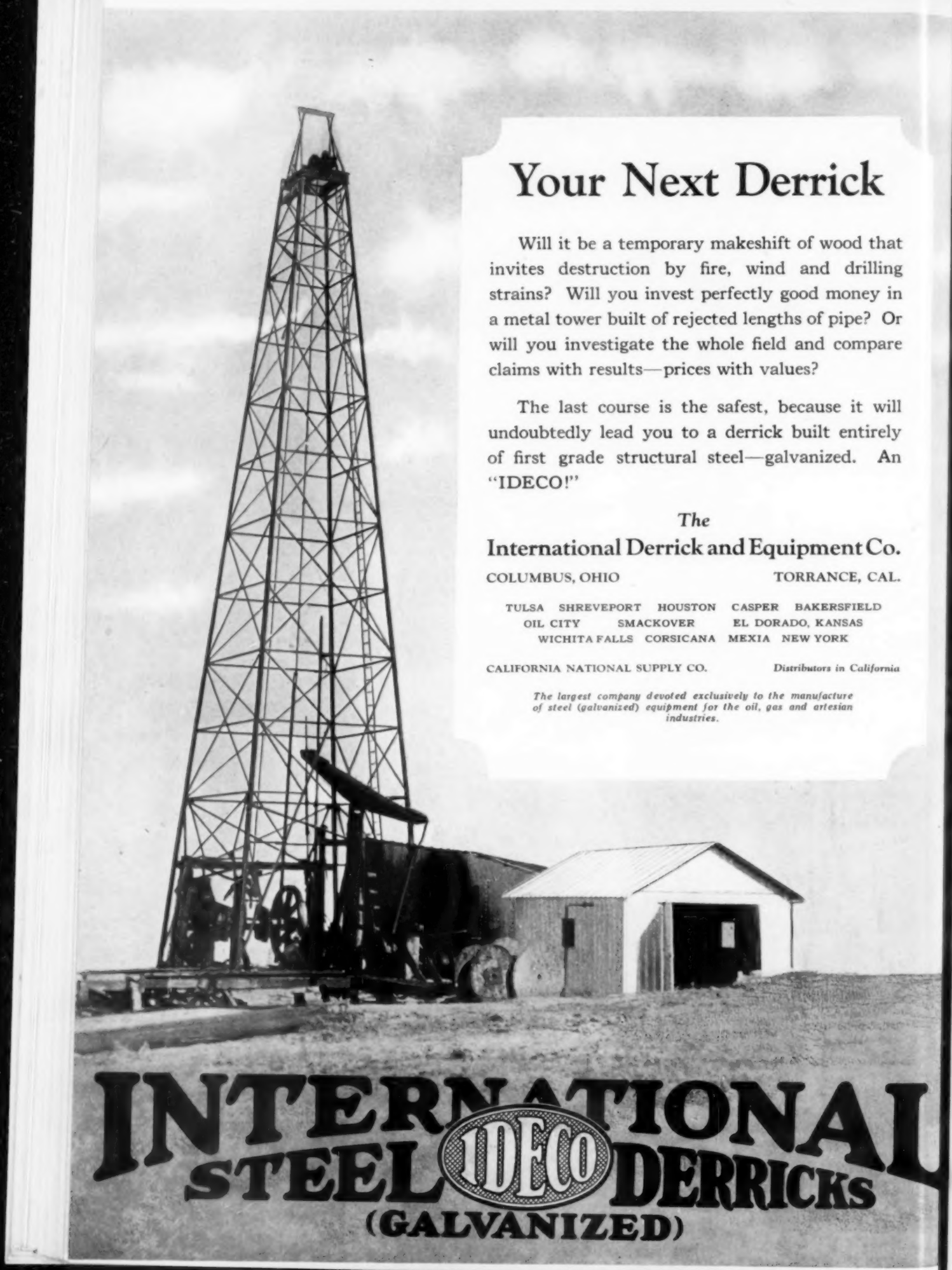
**(GALVANIZED)**

# Put Your Men and Equipment Under Galvanized Steel!

IDECO Standard Design Buildings of galvanized steel solve the problem of economical structures with no sacrifice to strength or durability. For oil field work they are especially adaptable in that they may be erected, torn down and moved with little loss of time and no loss of material. All parts of International Buildings are standardized, yet permit of enlargements and additions to meet any requirements with every little labor. Their fireproof and rustproof construction produces a building of unusually long life with practically no maintenance.

If your operations have need of economical weather-proof buildings let our nearest branch quote you on Power Houses, Pumping Stations, Warehouses, Offices, Garages, Filling Stations or Complete Steel Plants.

# INTERNATIONAL STEEL IDECO DERRICKS (GALVANIZED)


Your Next Derrick
Will it be a temporary makeshift of wood that invites destruction by fire, wind and drilling strains? Will you invest perfectly good money in a metal tower built of rejected lengths of pipe? Or will you investigate the whole field and compare claims with results—prices with values?
The last course is the safest, because it will undoubtedly lead you to a derrick built entirely of first grade structural steel—galvanized. An "IDECO!"
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COLUMBUS, OHIO
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The largest company devoted exclusively to the manufacture of steel (galvanized) equipment for the oil, gas and artesian industries.
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# Year Has Seen Great Strides In Equipment

## Co-operation of manufacturers in making better tools has helped advance in drilling

*By Wm. V. Gross*
*Staff Representative*

ACTIVITIES in the producing end of the oil industry for 12 months have called for more changes in Co-operation of manufacturers in making better tools has helped advance in drilling.
methods and equipment used than perhaps any other period of corresponding length in the history of the search for oil. Although this demand has not been satisfied wholly, advances made by manufacturers of drilling and producing paraphernalia and petroleum engineers are of inestimable value to the producer in general.

Changes brought about and under process of development, relative to the manufacture of equipment and to production methods, are results of a tendency on the part of operators to brook greater hazards and to drill deeper in their search for oil than hitherto was considered wise. The past month has witnessed the establishment not only of three world's records for rotary tools with reference to depth of rotary hole, depth of sand encountered and depth of core taken, but also has witnessed the setting up of a new world's record for depth. All the records were made with a rotary rig, a fact which is doing much to obliterate the belief that the rotary is not adaptable to exceedingly deep drilling.

### Manufacturers' Tendencies

With regards to equipment, research departments of manufacturers on the West Coast—and it is presumed legitimate manufacturers in the East are working in the same general direction—have been engrossed with attempts to turn out material and appliances superior in quality and design to that which has been used. In short, efforts have been directed toward making all equipment stronger; that used below the derrick floor lighter without loss in strength, and that above the derrick floor, heavier without loss of efficiency.

### Improved Chains and Sprockets

As an illustration, the change in manufacture of sprockets used on the rotary machine, draw works and engines of the rig is given. The time when sprockets were made of semi-steel, or cast steel, is not very remote. But today, a majority of manufacturers turn out an all-steel sprocket, calculated to withstand the severe shocks and rough wear they are subjected to in oil field development work. Not only has sprocket material been made better, but refinements in design are apparent in the modern product, which is machined to a nicety, with teeth ground to gauge for profile and pitch, a factor working in conjunction with improved chains to insure smoother running.

In the matter of chains, the main objective of manufacturers during the past year seems to have been to increase tensile strength and to produce a chain displaying less tendency to rise and side-slap the sprocket. Heat treated alloy steels, due to their greater tensile strength, are fast supplanting the plain steel formerly used altogether in the manufacture of chains. Side-slapping chains, the cause of worn sprockets and a shortened life of the chain itself,—to say nothing of increased danger to those working near them,—have been curbed considerably in the scope of their propensity for doing harm by a few vital changes in design. One of the outstanding of these is the innovation of the split type roller. Theoretically, this roller is conducive to smoother running and tends to minimize the inclination of the chain to spread as it side-slaps the sprocket. Improved heat treatment of the chains has done much to increase their power of resistance.

### Faster Reverse Gears

Reverse gears used on the drilling rig have gone through a series of changes in the last year that have made them safer, faster and more durable. With the growing demand for a more reliable gear occasioned by deeper drilling, and hence an increase in the number of round trips made, nearly all reverse gear patents of recent date have embodied an enlargement of dimensions of working parts, such as shafts, and the substitution of carbon steel for compounds of less strength. In the matter of speed, the evolution of the reverse gear has been in the direction of having the pulley of the reversing machine running at a speed double or nearly double that of the engine when running in reverse. The time saved by this improvement in pulling tubing, or in any other operation that requires a great amount of running in and out of the hole, is obvious. Planetary type gearing largely has replaced the older type of bevel gears that were universally used a few years ago. As the reverse gear is a piece of equipment subjected to a great deal of strain on deep jobs, roller bearings have practically taken the place of the antiquated bronze fittings in them.

### Crown Block Innovations

One of the most important strides made in the evolution of rotary equipment has been that wrought in the design and arrangement of crown blocks. From the crown block is suspended enormous weight and it is subjected to terrific strain at times. The object of those engaged in the manufacture of crown blocks apparently has been to obtain abundant strength, minimum friction and a minimum wear on sheaves and wire lines. Friction in crown blocks has been reduced by application of roller bearings in place of the old babbitt bearings, which were in need of constant attention. Sheaves of the modern crown block are manganese, to withstand the heavy strain caused by deeper drilling. In increasing the diameter of the sheaves, generally, in the past year, two results have been gotten. Perhops the more important is the fact that the wear on wire lines has been reduced considerably. The arc of the bend lines make in traveling through the block is of greater diameter, and consequently offers less tension and strain to the individual strand of steel in the line as well as the relative position of one minute strand to another in the line. This tends to preserve a well woven line and cut down the amount of burring on the outer edges caused by more strain on one portion of the surface of the line than on another when it is forced to travel over a sheave of small diameter. Because the number of revolutions made by the sheave when the traveling block is raised or lowered a given distance has been cut down, in direct proportion to the difference in the circumferences of the larger and smaller sheaves, friction has been reduced also by the use of larger sheaves.

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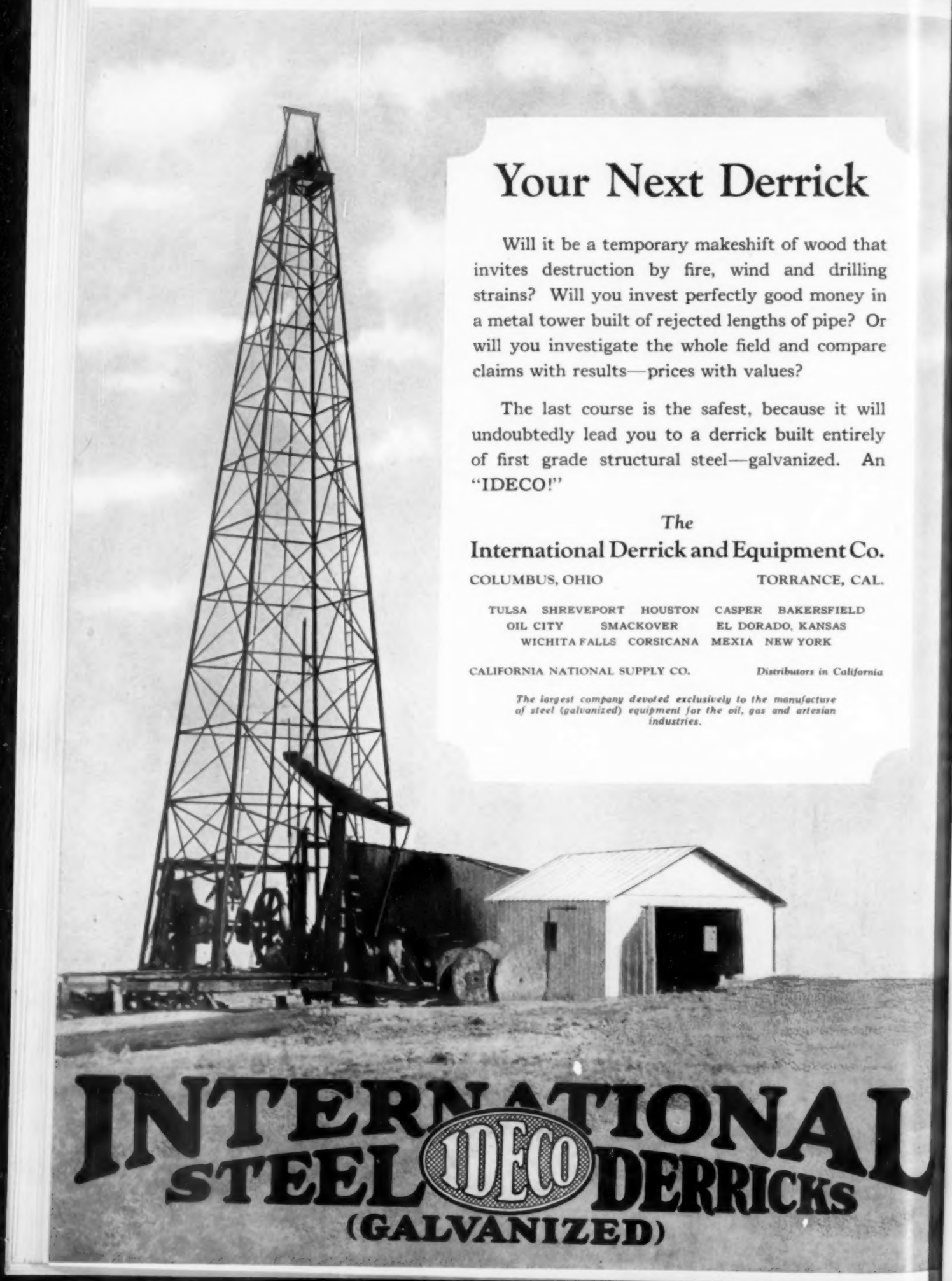
Compactness in the arrangement of sheaves on block sills has diminished the strain on the derrick, the lines and the engine. This step was necessary with the adoption of larger sheaves in order to keep the point of most resistance near the line drawn through the center of the crown block and the casing head. In placing the sheaves closer together, the increase in power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# the Oil Industry

drive is the most obvious means of effecting marked economies.

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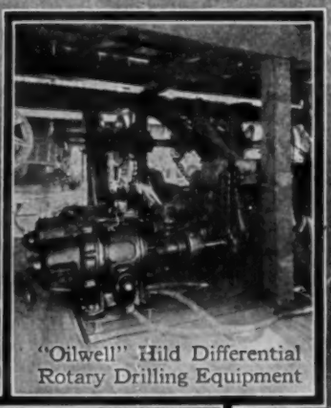

"Oilwell" Hild Differential Rotary Drilling Equipment

Rotary Drilling Motor and Control 100 HP. C. W. Motor

Twin Motor Drilling Equipment using 15-35 HP. Oil Well Motors

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that would have been required otherwise by lines angling out from the traveling block as it neared the top of the derrick has been partially eliminated.

### Exit Cast Iron

Cast iron in the makeup of rotary machines is being replaced rapidly by better steel, which previously was used only in connection with working parts. Ball bearings immersed in oil have taken the place of the old cone bearings on the rotary table. A study of several standard tables shows that in contrast to the partially guarded bearing runs formerly used, hold down rings now completely surround the table gear runway for bearings. This has done away with much of the sidesway and vibration and insures longer life to the rotary machine as a whole, as well as cutting down the strain on the drill pipe and the evil effects of a swaying table upon a Kelly joint and swivel connections.

Generally speaking, the changes in material constituents that have been made have been to change from cast steel to chrome nickel steel, replace cone and babbitt bearings with ball and roller bearings, to substitute low carbon steel for bronze in bushings, to increase the tensile strength of materials and to turn out metal that will withstand fatigue (crystallization).

### Change in Methods

Not only has the past year witnessed marvelous strides in the improvement of equipment, but the changes in methods of using this equipment have meant a great deal to the producer. Roughly, the advances and deeper drilling of operators have resulted in practically the displacement of standard tools by rotary; in changes in the sizes and weights of casing used; in new methods for studying and treating formations penetrated; modification of ideas for protecting oil bearing formations. For the following information regarding these changes, the writer is indebted primarily to Joseph Jensen, geologist for the Associated and Pacific Oil Companies.

Only five years ago, a drilling requirement of 4500 feet on a lease was considered an unfair burden on the oil company. Today, when we hear of wells 7500 feet in depth, we bear witness to the progress of drilling.

In California, the fish tail bit is the favorite for fast work, but in sandier formations, a disc bit gets better results, whereas in harder formations, the improved Hughes and Reed rock bits are used.

### Casing Setting Changes

A few years ago California's casing was standardized to meet the requirements of cable tools, primarily. But as it became necessary to run smaller long strings through the larger strings, friction developed between the casing and the wall of the well. To meet the situation, the inner casing was welded or the drill collars turned down on a lathe; 10-inch casing was eliminated by 11-inch and eight and five-eighths-inch casing was used instead of eight and one-fourth-inch. For deeper wells, to protect the hole while drilling and to avoid bad fishing jobs, it became customary to set a surface conductor of several hundred feet of 15½-inch or 18-inch, with about 3500 feet of 11-inch casing as an extra conductor. In easily drilled formations, the 11-inch is now being eliminated. However, where it is practical to use the 11-inch as a water string to protect an oil zone within its range, it is used yet. Casing used last year was the lap-welded type, but with the advent of seamless casing in 1925, having a collapsing pressure of 25 per cent greater depth, the lap weld type is not used so extensively in deeper wells, due to the other product's greater strength. Long strings of casing and drill pipe are now floated into the wells by using a check valve at the bottom of the casing. As much water or fluid as is wanted inside the casing is run in from the top as the string is lowered into the hole. In this manner, the weight of the casing being lowered can be increased or decreased at will, thus insuring a smooth job of lowering.

### Coring Expense Reduced

California operators have arrived at a more useful and less expensive scale for the number of cores taken. When the fact that a core costs from $25 to $150 is taken into consideration, the folly of excessive coring is seen. To all practical purposes, even in wildcat wells, coring more than once in every thirty feet below 1500 feet is inadvisable, as well as unnecessary. And in proven fields, the number of cores necessary to successful completion and to tangible data upon which to base operations, decreases. After reaching an oil sand, cores taken 10 feet apart should be sufficient. Repair work in shutting off water rarely is made more accurately thn this. In California, as elsewhere, the instances in which a water sand and the dividing shales in an oil zone will not occupy more than 10 feet are few.

### Salt Water Tests

Advances have been made in the methods of determining the point at which salt water is entering a well. If water enters the well around the shoe of the cemented casing, it is probably salt water. One method of determining the part of the hole which is the source of the salt water is to wash the hole with fresh water and to circulate all fluid out of the hole with fresh water. The fluid level is lowered a little, and salt water is encouraged to enter the well. It is not permitted to travel up the hole too far, however. Analysis of salt water samples show the salt concentration is greatest opposite the source of the salt water. The above method for determining the source of salt water in a well is being simplified and made shorter by the perfection of the galvanometer, a very sensitive electrical device. Two plates are run into the well and the salt water electrons migrating from one of the plates to the other generate enough energy to be registered on the instrument above. When the instrument strats registering, operators know the top of the salt water source has been encountered.

In addition to the above changes and improvements, there are numbers of new ideas being worked out by individual operators, which because they are not considered perfected in the eyes of those who have conceived them have not been publicly announced. But before the close of the year, it is safe to say that the contributions of 1925 to progress in the producingfi end of the industry will be augmented to a proportion considerably larger than they now hold.

## Open Shop Resolution Follows Union Effort

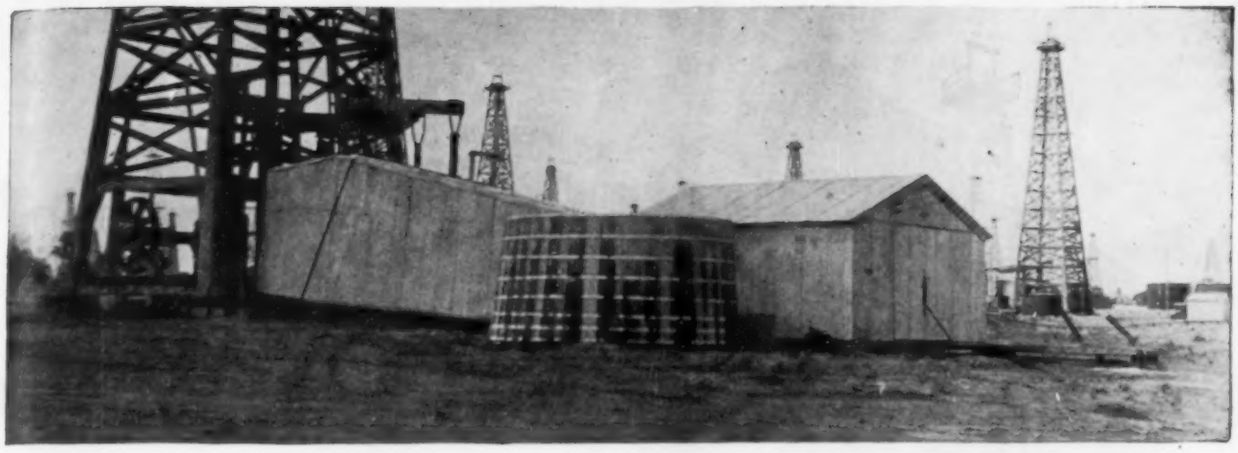
Shreveport, La.—The executive committee of the Louisiana-Arkansas division of the Mid-Continent Oil and Gas Association has adopted a resolution re-affirming the association's stand for open shop working conditions in the oil fields of this section. The action was by unanimous vote of the committee following a referendum of the membership which was also one vote short of unanimous. This action comes as a result of activities of organizers among field workers in the Arkansas fields, where three men are reported to have enlisted a few workers during a campaign for members. The immediate objective of the proposed union, it was said, is the eight-hour day and improved living conditions for the men in the oil fields.

## Open Tulsa Office

Baash-Ross Tool Company, manufacturers of oil field equipment, soon will open a branch office in Tulsa, Oklahoma, where Mid-Continent headquarters of the organization will be maintained. The office will be located at 309 West First Street.

## Magnolia Buys Production

Wichita Falls, Texas.—Magnolia Petroleum Company has purchased the properties of the County Line Oil Company (Ted Harris et al) in the Harmel pool, Archer County, consisting of 80 acres with 10 wells pumping 230 barrels daily for a cash consideration of $165,000. Two separate leases on the Vic Stampfli land, section 2408, and a 20-acre lease on the Brom land, section 1582, were obtained by Magnolia in the above purchase, and these tracts adjoin producing leases already held by Magnolia.



Standard Rig at Wortham showing use of paint. Even the water tank is protected with paint

# Care of Equipment Recognized Operating Efficiency

## Well protected machinery and lack of junk noticeable in Central Texas fields

*By A. R. McTee*

*Staff Representative*

OPERATING properties by the most economical methods compatible with good business is fast becoming the practice among oil companies. In the production end of the game more attention is now being paid to engineering details than ever before, with the result that in every field individual leases stand out as models of efficiency.

Along with this progressive development has come another change which has made for bigger profits on investments. For lack of a better classification, this change might be called "Better Care of Equipment."

Five years ago in any oil field in Texas an hour ride would have revealed thousands of dollars worth of equipment lying scattered over leases, serving no purpose except that of littering up the ground. In a few instances this condition prevails yet, but generally speaking, the contrary is true. Fields are taking on the appearance of well ordered places where good business methods are used and where conservation of equipment is the order of the day.

In all the Texas fields, none can outclass the group along the Balcones fault in point of appearance resulting from an absence of waste equipment. Powell, Wortham, and Mexia, the three major fault fields, are well worth study by any efficiency expert. In all these fields the amount of idle equipment is so slight as to be negligible. The companies keep enough material on hand to successfully operate their leases, and a reserve supply sufficient to tide over emergencies is available, but there is no waste. One does not see the remains of rigs standing on wells that have been abandoned. Old boilers and bull wheels are not lying around in the way. Where wells have quit the equipment has been transferred to some place where it can be put to work again and become part of a paying proposition.

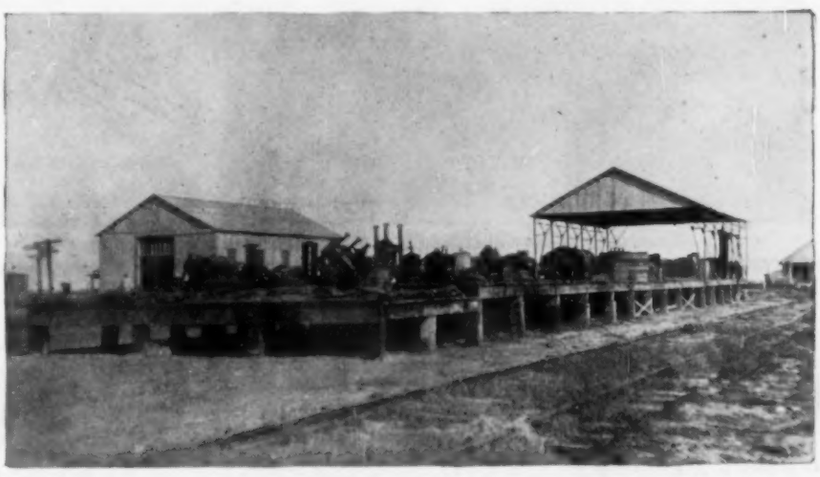
### Equipment Cared For

Another thing which impresses one going about these fields is the manner in which equipment is cared for. The most modern and excellent facilities available are provided for keeping equipment in order. For instance at Wortham, the Humble Oil & Refining Company has one of the most complete, up-to-date warehouses for oil field equipment to be found in Texas. The buildings are large enough to house everything that needs protection from the weather. The crew in charge of the warehouse is sufficiently large to take care of the stock, and the warehouse has more the appearance of a big supply store than a warehouse, so orderly is everything handled.

At Powell the Atlantic Oil & Producing Company has its equipment housed in a building large enough to protect everything that needs protection. The heavier material that cannot be damaged easily is left on a shed, but even this equipment is well painted and greased to guard against rust.

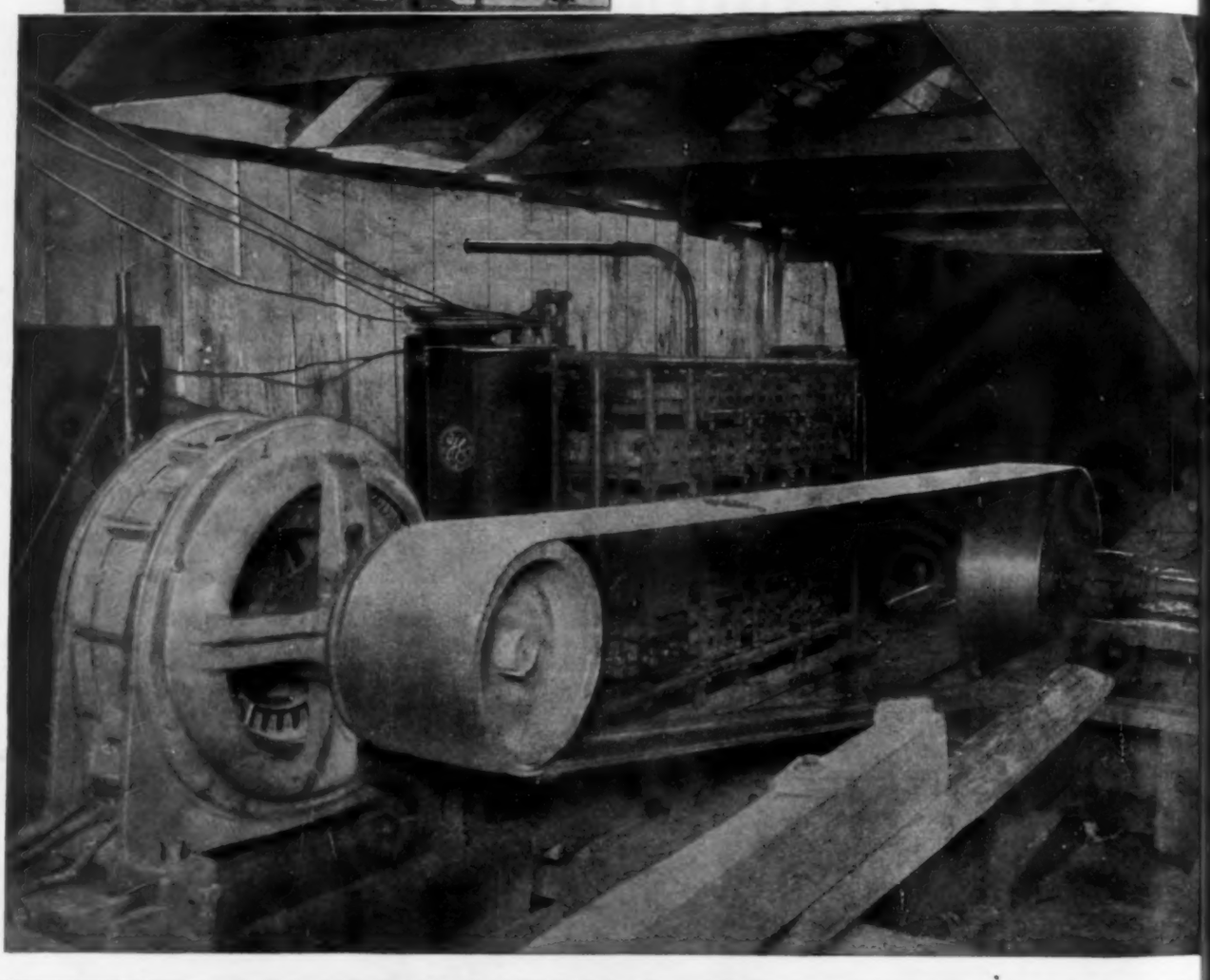
The Gulf Production Company keeps all its reserve equipment indoors at Powell and has a warehouse that amply meets all the needs for space.

Few fields in the country can boast of



Warehouse at Powell. Note the shed space and building to protect equipment

# Colorado's
# Makes World



GENERAL

GENERAL ELECTRIC COMPANY, SCHENECTADY, NEW YORK

*Say you saw it in The OIL WEEKLY*

# First Electric Rig Record for Electric Drilling

A depth of 7,300 ft. has been reached in the Rollestone Well of the Roland Oil Co., near Longmont, Colo. This is the deepest electrically drilled well in the world.

The record-breaking rig is operated by a G-E Standard 75 h.p. Oil Well Drilling Equipment on cable tool work. This same G-E apparatus drilled a number of wells in Oklahoma before being moved to Colorado. This same type and size of G-E drilling equipment held the previous world's record for electric drilling rigs in California when a depth of 5,445 feet was reached.

This installation marks again the ability of G-E equipment to stand the wear and tear of one drilling job after another with minimum depreciation and maintenance.

G-E equipment is specially designed to give the right motion to the tools needed in cable tool drilling. It provides over 100 possible speed variations, the exact speed needed for drilling being obtained by the auxiliary controller.

G-E oil field specialists and complete electrical service at—

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7A-70

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## ROCK ISLAND Model 70 Tractor Winch

*Built Especially for Oil Field Service. Most Power with Widest Range of Speed at Well and on the Road.*

10,000 pounds pull on single line—guaranteed.

Pulls tubing directly over crown block—eliminates bull wheels entirely.

Large drum, 18 inches diameter, 28-inch face, capacity 3,000 feet of 1/2-inch line, spools 140 feet of 7/8-inch line without lapping—increases life of cable.

Two large service brakes 30 inches diameter by 4-inch face—over 750 square inches braking surface.

All working parts enclosed, running in oil bath. Ball and roller bearings used throughout.

Pulling speed 100 to 400 feet per minute.

Speed easily and instantly varied while in action—friction transmission, an exclusive feature, makes this possible. Reverse speed either free, or same as pulling speed. Operator always faces the work.

Any road speed from one to ten miles per hour.

Heavy duty four cylinder Waukesha motor with Ricardo head.

*Ask for free book describing Rock Island Tractor Winches and Rock Island pumping engines built especially for oil field service.*

MODEL 70 Tractor Winch & No-56 Pumping Unit

"Heider" Tractor Winch & No-51 Pumping Unit

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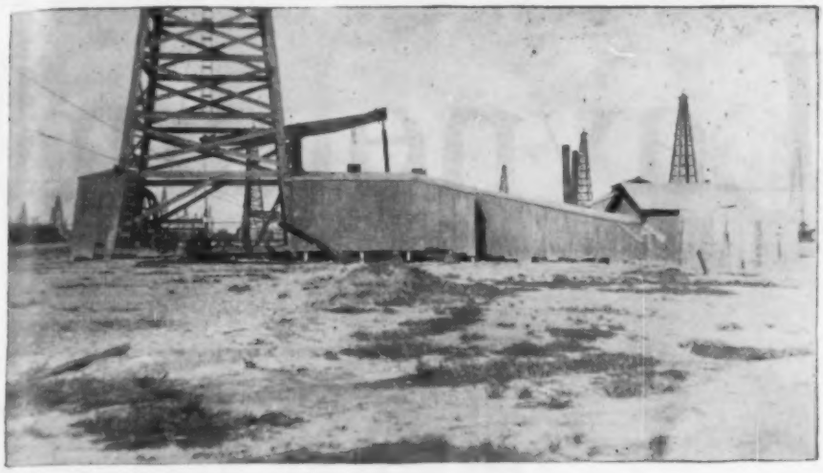


Model type Standard Rig in Powell field. Note shed to protect Bull Wheel

as much painted equipment as one finds at Powell, Wortham, and Mexia. Not one rig out of a dozen is unpainted. Different companies have their individual color combinations. At Powell, the Gulf Production Company uses black and yellow. The Pure uses red and white. Simms paints with battle-ship grey and yellow. Humble uses a straight grey, and varoius other companies use other color schemes. It is of course impossible to make any sort of an estimate as to the saving in equipment resulting from keeping it well painted, but that well painted equipment lasts longer than unpainted equipment, there can be no doubt. In addition to the saving in equipment through its longer period of usefulness, the difference in appearance between a lease where the rigs are painted and one where no paint is used, is infinite.

### Protecting Sheds

Nearly all rigs in the fault fields have a shed built onto the derrick to protect the bull wheel. These sheds are of galvanized iron, and cost but little, but they protect the bull wheel and bull rope from exposure.

It is a general practice throughout this section to protect drilling boilers by building sheds over them. These sheds are temporary affairs, but they serve as protection both from the rain and sun—the temperature has been known to go as high as 106 and 107 in these fields.

Adoption of steel derricks has been fairly wide at Powell and Wortham, and they are in the majority at Mexia. On the Pure Oil Company's lease where more than 200 wells are pumping, nearly all the derricks are steel, set in concrete foundations.

At Wortham the Rio Bravo lease is equipped wtih steel derricks.

### Safety Measures

That the idea of safety in oil field practices is gaining with field men as well as individual companies is emphasized by the growing number of California type derricks with the safety platforms. At Powell about a third of the derricks are of this type, and at Wortham the percentage is smaller. But the safety derrick predominates at Mexia.

In all these fields the boom period of development has long since passed and this fact does away with much of the danger incident to rushed drilling. However the installation of the safety derrick is a safeguard against accidents in working over wells and doing anything where a man is required to work in the top of the derrick.

Pumping with electricity is gaining in popularity in the fault fields. At Powell and Wortham fully one-third of the outfits are operated with electricity furnished by the Texas Power & Light Company. A few companies are building concrete rigs, using casing and pipe for the framework, and setting all machinery in concrete foundations. Such an outfit is as nearly free from vibration as a rig can possibly be.

A progressive step taken by the Humble Oil & Refining Company at Powell is the installation of equipment to prevent storage tanks from being fired by lightning. This equipment consists of an arrangement of wires on top of the tank, the theory being much the same as that of the lightning rod. When lightning strikes the tank or its immediate vicinity, the flash will be attracted to the copper wiring and the tank itself will furnish the ground. This equipment is not on all Humble tanks, but a sufficient number are so equipped as to give the scheme a thorough trial.

## Union Oil Team Wins First Aid Contest

Los Angeles, Calif.—Los Angeles Refinery's State Champion First Aid Team won the Union Oil Company of California elimination contest held recently at Wilmington. The standing of the five competitive teams was as follows: L. A. Refinery team No. 1, L. A. Refinery team No. 2, Oleum Refinery team No. 2, Oleum Refinery team No. 1, Producers Pipe Line.

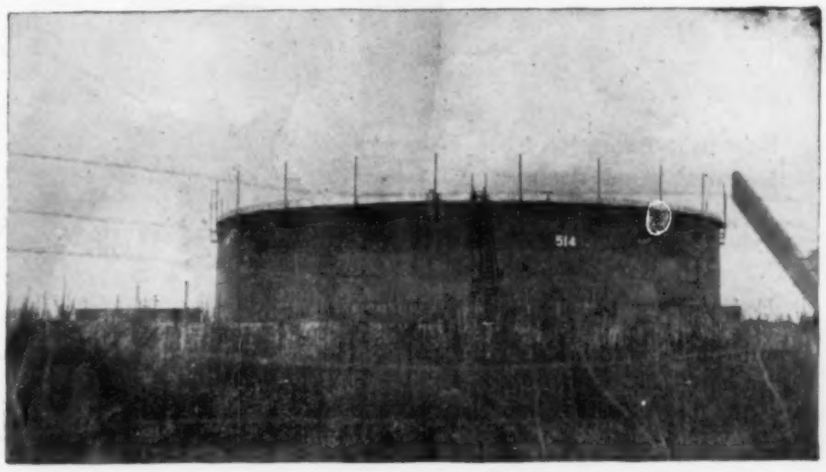
The contest was held on the lawn before the Los Angeles Refinery administration building.

Each team, consisting of five workers and one "patient," lined up before its canvas spreads. The first problem, enclosed in an envelope, was handed each captain and at the sound of the gong was read aloud to the team members. The five patients took their positions on the spreads and at the sound of the second gong the contest was on.

The problems, written for the occasion by an official of the U. S. Bureau of Mines, were consistent with actual experience in the oil industry. As in all work of first aid, the objective of the problems was to take care of the patient and prepare him for transportation to the hospital where medical and surgical care could be administered.

Over each team were contest judges, recruited for the purpose from among the first aid trainers of other industries. With pencil and pad in hand they noted the deficiencies of the team members, charging each team with penalties which the layman would be prone to overlook. At the expiration of the 12 minutes allowed for each problem, the judges handed their score sheets to the recorders.

The contest closed with the compu-




Storage tank at Powell protected from lightning with new system

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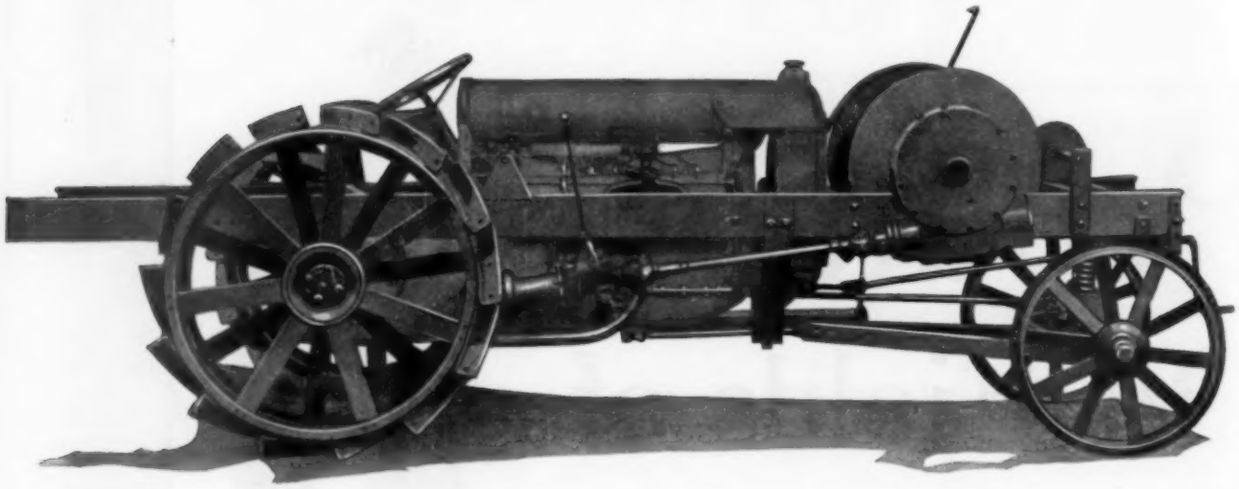
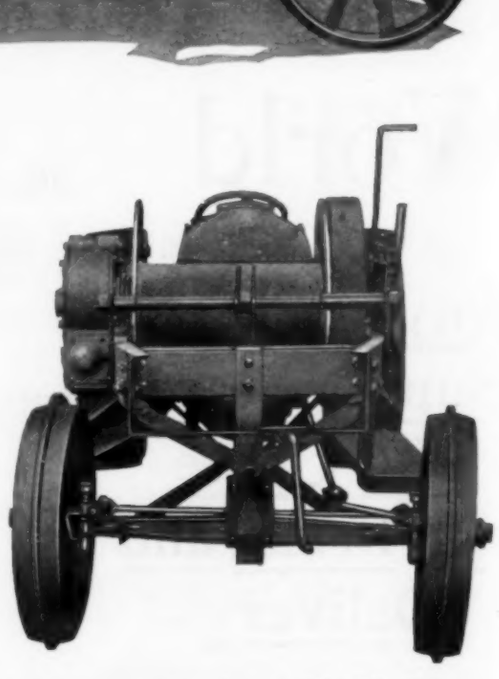
## WORM DRIVEN



This is one of our latest machines and has already been adopted by several large producing companies. The construction and drive are identical with our other units except that this is heavier throughout and carries a larger drum, has a bigger clutch and more powerful brake.



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We refer you to the following, who have given us repeat orders: B. H. Donovan of Pennsylvania Gas Co., Warren, Pa.; C. P. Balsiger of South Penn Oil Co., Oil City, Pa.; S. W. Meals of Carnegie Natural Gas Co., Pittsburgh, Pa.; C. H. Law of Ridgway Light & Heat Co., Ridgway, Pa.; R. P. Bunyan of Ohio Bell Telephone Co., Cleveland, Ohio; Bert H. Shepard of Shepard Construction Service, Inc., Syracuse, New York. Tell us your requirements.

*Write for information and prices*

# Sheffield Tool & Supply Company
**Sheffield, Pennsylvania**

# Long Shoe Proves Economy in Kern River Field

*By R. G. Rogers,*
*Inspector, District 4, State of California*

IN most wells drilled in the Kern River field during the past five years, upper water has been shut off by placing cement between the water string and the wall of the hole. In part of the field, however, some operators favor the "formation shut-off." This method is slightly cheaper than that of cementing, but its principal support is found in the contention that should it be necessary to remove the water string there will be greater salvage of pipe and less junk to sidetrack with the formation shut-off than where the casing has been adequately cemented. This consideration is important in the southwestern part of the field where the correlation of lowest top water is uncertain.

Successful use of this method of shutting off water depends on (a) sufficient thickness of suitable formation (such as firm clay above shale) against which the shoe can form a tight seal, and (b) a shoe of suitable length and design so that obtaining the impervious seal is practicable. This is shown at C in the accompanying drawing.

Throughout the main part of the Kern River field there is a considerable thickness of shale and clay immediately above the producing horizon, making it possible to obtain successful formation shut-offs by means of properly designed long shoes. Several designs have been successfully used in this field. One of these is shown at A in the drawing.

In constructing this long shoe, a joint of casing somewhat larger in diameter than the water string is slipped over the shoe joint. This sleeve is firmly held in position against the shoulders at the top and bottom, the top of the sleeve shouldering against the collar of the shoe joint and the bottom collaring against a recess cut in an ordinary casing shoe. The length of the sleeve is predetermined so that when placed in position on the shoe joint the casing shoe will screw tightly against the sleeve. The entire shoe is reinforced by welding at the shoulders.

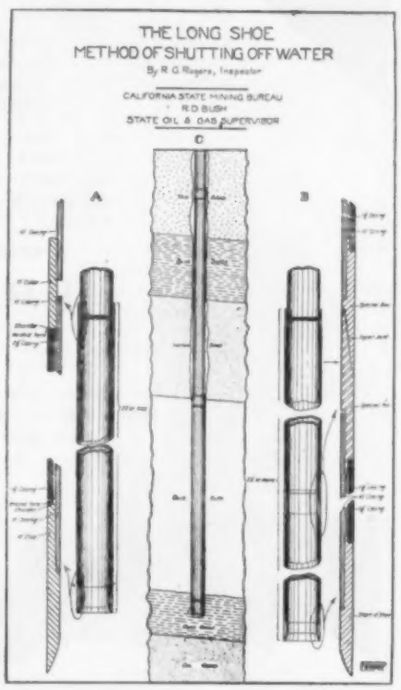
This type of long shoe is usually made in lengths up to about 22 feet. In the event that no thick landing formation is found at the proper depth, the shoe may be constructed long enough to include two or more streaks of landing formation. In this case, a shoe longer than a single joint of pipe may be necessary. Unbroken surface throughout the entire length of the shoe is obtained by means of flush joints, as shown in detail at B in the drawing. The joints are usually made in ten-foot lengths.

The cost of a long shoe necessarily depends on its length. For example, a 22-foot shoe on a 10-inch water string would cost as follows:

| | |
|---|---|
| Shoe joint, 20 feet of 10-inch 40-lb. casing at $2.55 | $ 51.00 |
| Sleeve, 20 feet of 11⅝-inch 40-lb. casing at $2.68 | 53.60 |
| Shoe, 10-inch shoe 12 inches long | 44.50 |
| Machine shop (cutting shoulders, etc.) | 10.00 |
| Total cost | $159.10 |

The long shoe is landed in a tight hole by carrying the shoe close to the bit or by driving it into a small hole previously drilled. When the water string with the long shoe is being carried, the landing formation is penetrated about three feet. The casing is then set on the bottom, drilling is continued with a "tight line," and the casing is allowed to follow the bit. The shoe is often driven the last foot or two to its landing. In landing in a hole previously drilled, the well is prepared for the shoe by drilling a small hole the length of the shoe into the landing formation. A bit about one inch smaller than the inside diameter of the water string is used. The shoe is then driven to the bottom of the small hole, thereby insuring a tight fit and an effective water shut-off. Driving must be done with care, however, as it is often harmful to the casing.

The long shoe has also been found useful in redrilling operations. In one instance it was found that the top oil sand had gone to water. A bridge of brick-bats was built at the bottom of the first clay below this flooded oil sand. The walls of the old hole were built up by tamping dry clay on this bridge, bridging back with the clay to above the point at which the long shoe was to be started. A small hole was drilled to within five feet of the bottom of the clay bridge and a 20-foot shoe was driven to its landing at the bottom of the small hole. A satisfactory shut-off was obtained.

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tation of the scores and the award of the Safety Board Trophy, a cup which carries the inscription "In appreciation of interest in first aid, this cup is each year awarded to the team winning the company elimination contest." By winning both first and second place in this contest Los Angeles Refinery wins the distinction of sending both its teams to compete in the state contest to be held in Fresno October 2nd and 3rd.

Judges of the contest were: Messrs. B. F. McDonald of the E. D. Bullard Company; C. P. Anderson, U. S. Bureau of Mines; R. M. Wood, George L. Merritt, Barton Cater, R. C. Jost, A. R. Calderwood, all of the Standard Oil Company; A. W. Harris, C. C. Howe, Wm. Currie, Shell Oil Company; Geo. Condon, State Fund; E. R. Davis, Globe Indemnity Insurance Company; F. H. Rhodes, and W. S. Carmichael, the veteran safety engineer of the Riverside Portland Cement Company.

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**J. H. Edmundson,** gauger for the Prairie Pipe Line Company, formerly located in the Elgin, Kansas, district, has been transferred to the Braman, Oklahoma, district to serve in the same capacity for the company.

---

**W. M. Gaston,** with the Dan Harrison Oil Company, office at Houston, is spending a vacation hunting big game in the Davis Mountains and other sections of the Texas wilds near the Mexican border.

---

**C. C. Jessup,** purchasing agent for the Crown-Central Oil Corporation, Houston headquarters, has tendered his resignation, effective October 1, and will leave in the near future to make his home in Florida.

# They Dominate In Oil Field Service

There is only one reason why the GENUINE Williams' "Vulcan" Tongs dominate in oil-field service—but that is everything—they are SUPERIOR:

Superior in design
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Superior in strength
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# Index to New and Improved Field Equipment Section

*Below are the concerns that have brought out new or improved field equipment during the past year, descriptions of which are included in the following pages. Page numbers refer to the special sepia insert devoted to NEW AND IMPROVED FIELD EQUIPMENT which begins following page 82. For easy reference an additional index according to classification of product will also be found below: (Advertisement in this section have been listed in the regular Advertisers Index on page 22).*

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ALUMINUM PAINT cuts down evaporation by keeping the oil *cool.* How? By reflecting the sun's heat instead of absorbing it.

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Aluminum Paint is rustproof—waterproof—weatherproof. It is the most economical paint for tanks and other exposed structural work on the "farm." It gives better protection and longer service than other paints—yet it costs no more.

Write us today for the "Aluminum Paint" Booklet and samples of Aluminum Bronze Powder.

*Aluminum Paint consists of Aluminum Bronze Powder mixed with a suitable vehicle of oil or varnish.*

**Aluminum Company of America**
**2402 Oliver Building . Pittsburgh, Pa.**
OFFICES IN EIGHTEEN PRINCIPAL AMERICAN CITIES

# ALUMINUM PAINT

# ALUMINUM PAINT

## On City Storage Tanks Too

ALUMINUM PAINT cuts oil evaporation to an amazingly low degree.

Bureau of Mines field-tests recently confirmed the high efficiency of Aluminum Paint in lessening evaporation losses.

Aluminum Paint has also won commendation as a longer lasting rustproof and weatherproof paint for tanks and other metal structures. Yet Aluminum Paint costs no more than other paints. No more than paints far less efficient in halting oil-evaporation and tank rusting

Aluminum Paint can be sprayed on or brushed on as desired. Remember—it delivers more lasting protection at no greater cost.

Write today for the "Aluminum Paint" booklet and samples of Aluminum Bronze Powder.

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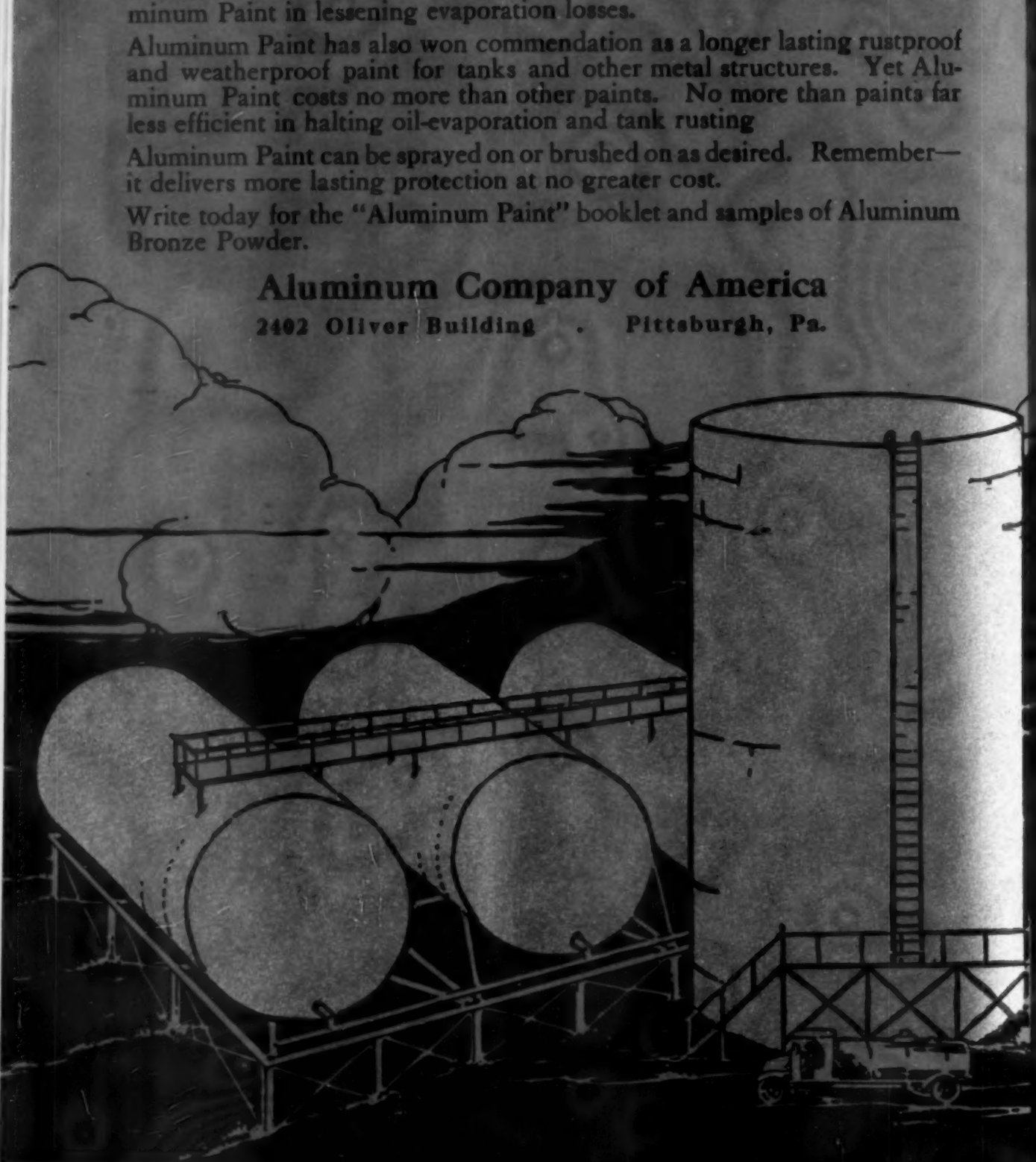


# MODERN FIELD EQUIPMENT for Hard Formation Drilling

## Primary Principle Same Today as Yesterday

From the days of the early Stone Age, no method of rock cutting has ever been devised more effective than that of the chisel and maul. This is a primary principle of the Reed Roller Bit.

The cross rollers peculiar to this bit only, give to this tool the same action as that of many chisels at work at the same time. The action of the cutters as they strike the rock in the hole is identically that of the chisel—a quick, sharply struck blow, with a slightly twisting motion added, while the weight of the bit itself and the drill stem gives the cutters the force of many mauls.

Reed Roller Bit with shank to fit your drill collar

The construction of this bit is such that with one-half a revolution of the drill stem, every part of the hole is covered, as the teeth of opposite cutters are pitched differently and a complete revolution of the drill stem is the equivalent of two same place, but at slightly different angles only.

The cutters in this tool are manufactured from the very highest quality steel procurable; are carefully heat treated and machined so that they may be easily fitted into the head.

## Perfect Balance and Direction Very Necessary

The Reed Roller Bit is equipped with a four-point reamer, set in a long shank reamer body, directly above the head. This gives to the bottom cutters perfect balance and direction and means that nothing but a perfectly straight, round hole can be secured, inasmuch as it is impossible to secure any play in the hole where there is a four-point contact.

Reamer cutters are in halves, the bottom half being beveled so that should side cutters become worn through long usage, the reamer cutters will smooth down the walls and bring the hole out to full gauge. Then, too, alternate cutters are pitched differently to prevent possible tracking.

Directly above the reamer body itself is a reamer collar, the upper end of which is generally left blank, that it may be turned to fit the individual needs of the rig upon which it is to be placed; that is, the collar may be threaded to fit any drill stem.

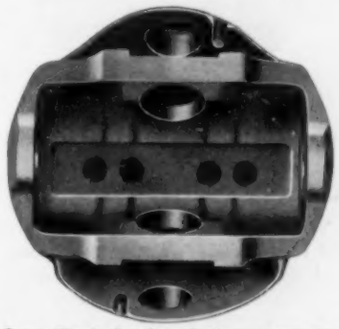
The Reed Rock Bit is divided into three separate and distinct parts—the head itself, the reamer body and the reamer collar—permitting it to be made up or broken out with the least possible effort, also permitting use of a fishtail bit instead of the rock bit head by the use of a sub which fits into the reamer body, and thus reams hole directly behind the fishtail. If reamer is not desired, the entire bit can be disconnected and fishtail substituted in minimum time and with minimum effort, and without danger to hole measurement calculation.

The Reed Rock Bit is so designed to permit a maximum clearance of slush and cuttings from the bottom of the hole without any danger whatever of choking the hole.

## Slush Lubrication Has Proven Its Worth

The Reed Rock Bit is entirely lubricated by the slush commonly used in the drilling of all wells. The head of this bit is equipped with a series of holes directly above the cutters, permitting slush to descend directly upon them and keeping them free from cuttings and giving a clean surface upon which to operate.

The principle of slush lubrication is scientifically right. When a slush pit is once filled and drilling operations begin, you have at hand a natural lubricant which may be used in copious quantities, both for cleaning and lubricating the rock bit.



Open Head showing slush passageways

The cross-cutting action of this bit, with its sharp, twisting, cutting blows, doubly delivered at each rotation of the drill stem, guarantees that the bit will cut faster than any other rock tool ever yet devised.

The performance of the last several years and records of drilling operations in practically every field, show that the Reed Rock Bit will average at least a third more rock in ordinary formation than will any other rock bit in the same time.

## Economy in Usage Of Cutters

Out of each set of cutters used, there is generally about one-third of the set which can be put aside and again used with splendid results.

As a matter of fact, any number of large operators who are using quantities of cutters daily, require chisel blows struck at identically the

*(Advertisement)*

that each set shall be reboxed and sent back to their warehouse, as they advise it is practically always possible to secure a fairly good set of cutters from each three sets returned.

This saving alone has in any number of instances induced rock bit users to turn to the exclusive use of Reed as a strict matter of saving dollars and cents.

The Reed Rock Bit is an economical tool to use, as it is unnecessary to purchase a mechanical lubricator of any sort, with the usual extra joint of pipe, hydraulic swedge nipple, etc., as well as eliminating lost time going in and out of hole to fill such a lubricator.

Cutters easily changed in ten minutes

## A Tool of Many Purposes

The Reed Rock Bit is an economical tool to use, as it is not alone a rock-cutting tool, but is really a combination tool.

It is the only perfect reamer on the market. Four-point contact with surface, at all times assures a hole of full gauge. The reamer may be used directly behind fishtail in digging, in reaming down hole after completing, before setting casing. Many operators have found it the most satisfactory tool for this purpose, saving any possibility of a stuck job in setting casing.

## Rolling Out Collapsed Casing

Reed Reamers may be built up in tandem from a bull nose or diamond point to any size desired, and equipped with smooth rollers for rolling out collapsed casing. In fields where caving formations are common, no tool has been found which will excel this tandem arrangement for rolling out casing.

While the Reed Bit is not so designed, recommended or sold, yet in a large number of instances it has been used in connection with whip stock in cutting out through casing and setting new hole, or for cutting up of junk dropped in the hole, such as chain, fishtails, tools, etc.

## Reamers Are Used in Diamond Drilling

Reed Reamers have been found to be a very present need in connection with the use of diamond drills, the common practice being to use three reamers, one directly above the diamond drill and the other two placed one joint of drill stem apart, thus eliminating the lateral motion of the drill stem and saving the diamond points.

The fact that the Reed Reamer collar is threaded to fit each individual drill stem eliminates the purchase of any drill collar, or an average saving on each purchase of $50.00.

As all cutters are held in place by a single set screw, the average time of changing a complete set of cutters is not more than ten minutes, and there is no possibility of long lost time and machine shop bills in breaking out frozen cutters or tight bearings.

Inasmuch as the Reed Rock Bit is made in three separate and distinct parts, when the head becomes worn from long usage it is possible to buy an entirely new head at approximately the cost of a set of cutters, instead of purchasing a whole new bit, or else sending to machine shop, with consequent long wait for repairs.

The reamer collar being solid, there is no danger of it freezing to drill collar or a drill stem.

Stock reamers in tandem for use in rolling out collapsed casing

Solid Bit Head, Reamer Body and Reamer Collar insure ease of make-up as well as long life and service

## A Real Proven Roughneck's Friend

It is instinctive to want to do all work in the easiest manner possible, and in designing the Reed Rock Bit this inherent wish has been taken care of.

Coming out of the hole with a fishtail bit, it is only necessary to break out that bit and screw in the Reed Rock Bit, as the Reamer Collar has been threaded to fit the same drill stem. There is no delay, as the Rock Bit may be made up just as quickly as could a fishtail, inasmuch as there is no lubricator to

*(Advertisement)*

MODERN FIELD EQUIPMENT FOR HARD FORMATION DRILLING

fool with, no extra joint of pipe to be made up and figured into the log calculation, and no messing around with a lot of oil and grease, refilling a lubricator and making sure it will work.

Going back in the hole, the driller is permitted to open up his slush pump and continue drilling until either the rock has been made or cutters have been worn down, in which case he comes out of the hole and by simply loosening one set-screw, makes a complete change of cutters and is ready to go back easily within ten minutes of time, instead of devoting two or three hours to breaking down the entire bit, disconnecting from lubricator, opening up and changing.

Then when rock has been made, it is only necessary to come out of hole and break out the head of the Reed Bit and screw in a fishtail, then ream down the entire hole as it is being drilled.

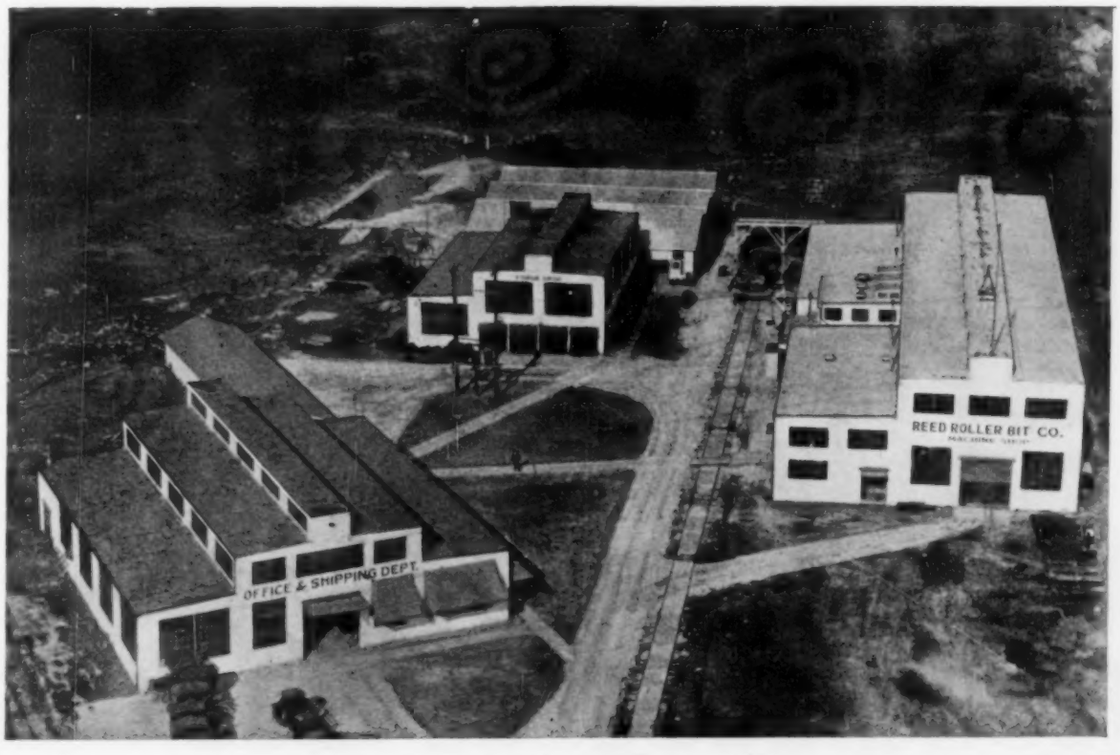
In case of twist-off, which usually occurs just above the rock bit, at connection with drill stem, it is much easier to perform a fishing job on a Reed Bit than any other rock bit. It contains a large passageway for the slush column, and is not choked up with any sort of a lubricator or extra stand of pipe, around which or over which it is generally very difficult to get with any sort of a fishing tool. With the Reed Bit it is easily possible to drop an ordinary spear in and pick up the bit and come out of hole.

An ideal arrangement for reaming down hole before casing is set.

The Reed Rock Bit is much more easily handled on the derrick floor than any other rock bit known.

When it has performed its duty it is not necessary to take down, steam, clean, oil and grease and put aside for further use, but can simply be washed off with the hose and set aside for further use.

And last, but not least, less weight is required to operate a Reed Bit than any other rock bit manufactured, as it always operates at maximum efficiency on a tight line, thus relieving wear and tear on rigs and drillers.




Where Reed Rock Bits and Reamers are manufactured

*(Advertisement)*

*In*

# *THE REED ROLLER BIT*

*you've*

*A combination tool that will cut rock, ream hole and roll out collapsed casing*

**SAFE**
**SOUND**

**SURE**
**SPEEDY**

Ask any actual user

Sold by your supply store

# Reed Roller Bit Co.

**New York** **HOUSTON** **Los Angeles**

*Say you saw it in The OIL WEEKLY*

# New and Improved Field Equipment

IN the NEW AND IMPROVED FIELD EQUIPMENT section The OIL WEEKLY has brought together a condensed but complete illustrated description of all new and improved equipment brought out during the past year for the producing branch. In it will be found an answer to your every question on late developments in the industry's mechanical department.

This section supplements your equipment catalogs and has in concise form valuable data on recent changes in field material that can not be secured elsewhere. It is the first attempt to furnish the trade with information of this type and it has only been possible through the co-operation of the many manufacturers offering equipment for use in the Producing Division of the Oil Industry.

The information given is as complete and authentic as it is possible to get it and descriptions have been included on all available products whether or not the manufacturer is an advertiser in The OIL WEEKLY.

You will have use for this issue so give it a permanent place in your buying records for future reference.

# New and Improved Field Equipment

## Marion Machine Has New Features in Pitman

To overcome the many difficulties with pitman operation, Marion Machine, Foundry & Supply Company, Marion, Indiana, has put on the market the Marionhill pitman.

The Marionhill Pitman

The point where the pitman connects with the wrist pin embodies the improved features of this pitman. A cast babbitted box is stationary on the wrist pin—the I-beam butting against this; both upper and lower parts of the box are semi-steel, and the parts are fastened together with 5/8-inch and 1/2-inch cap screws. This bearing is babbitted and drilled to permit free oiling, and is equipped with one cup. The bearing remains on the wrist pin at all times, permitting perfect and permanent adjustment.

The oil cup is fastened to the I-beam directly above the perforation. This method of oiling insures constant and thorough lubrication.

A hinged bearing lock, riveted to the I-beam with 3/4-inch rivets and locked with 1 1/4-inch bolt, securely fastens the pitman rod to the wrist pin.

To detach the pitman it is only necessary to loosen the bolt nut slightly. This will allow the hinged bearing lock to swing back, completely releasing the pitman from the wrist pin, without any strain or pull whatever on any part of the equipment.

The hinged bearing lock is made of cast steel.

There are no keys or follow blocks to work loose, and this insures perfect bearing adjustment at all times.

Complete information will be sent by the company on request.

## Structural Features of Valve Appeal to Users

The Lunkenheimer Company of Cincinnati, Ohio, manufacturers of valves and engineering appliances, has just released to the market an entirely new line of iron body gate valves containing many structural features which will appeal to valve users.

The valves are made in two types, stationary stem, inside screw and rising stem, outside screw and yoke. Either type may be had in the standard pattern for 125 pounds working steam pressure, or in the extra heavy pattern for 250 pounds, total temperature being 450 degrees.

Strength and rigidity to the maximum degree are insured by the ample thickness of the body and the proper distribution of the metal, together with large fillets.

All parts are renewable, and this includes the seat rings. Attention is directed to the manner in which the seat rings are held in place: They form a joint with the body by solidly backed walls, thereby preventing any possibility of their becoming loose or being wedged out of place.

Ribs which act as guides for the disc and which are cast integral with the body, are machined, as are also the grooves in the disc which engage the ribs. This construction eliminates excessive wear and marring of the seating surfaces incident to the dragging of the disc upon the seats.

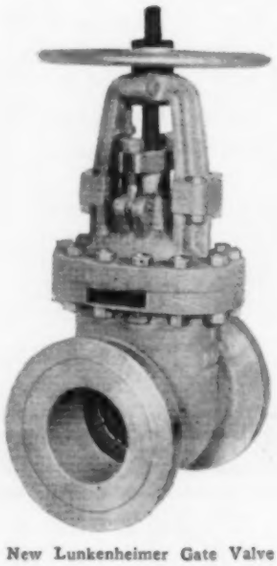
The disc of the inside screw, stationary stem pattern, is hollowed only sufficiently to receive the stem, while the disc of the outside screw and yoke, rising stem pattern is solid throughout. The advantage of a solid disc is that when expansion and contraction occur, both sides of the disc are simultaneously affected, thereby preventing distortion or fracture and insuring tight seating surfaces.

Large packing surface is provided by the deep stuffing box. The stuffing box is repackable under pressure when the valves are wide open, a tight seat being formed between the top of the disc and the bottom of the stuffing box bushing.

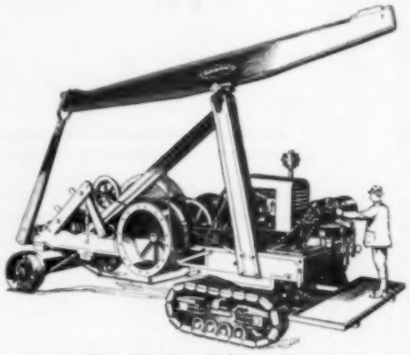
One of the novel features is that of the two lugs provided within the yoke arms directly above the stuffing box gland. When it is necessary to repack the valve, the gland is raised above the lugs, and by slightly turning it, the flange on the gland will rest upon these lugs, thereby dispensing with the usual method of tying up the gland while the stuffing box is being repacked.

Convenience of repacking is also afforded by the use of swing bolts which retain the stuffing box gland. To raise the gland, only requires loosening of the nuts sufficiently to permit of swinging the bolts aside. Entire removal of the nuts is not necessary.

Additional information will be provided by the company upon request.



New Lunkenheimer Gate Valve



Portable Star Drilling Machine

## Portable Drilling Machines Powered By Super-Tractors

An outstanding development in the manufacture of portable star drilling machines this year was the marketing of the new Star gasoline super-tractors Nos. 28ST and 30ST. They are the same size and capacity as the two largest star steam machines.

These two new Star machines were designed with one purpose in view—to reduce the cost of drilling and cleaning out. They reduce to the minimum many costly production items such as moving expense, teaming, fuel, water, labor and time. This season they have enjoyed an increasing sale in certain sections of the Southwest where bad water conditions prevail.

Each of these Star super-tractors is equipped with a Waukesha Ricardo head 4-cylinder gasoline motor that furnishes abundance of smooth, even power. By the use of the Star natural gas attachment, the cost of operating can be cut to a minimum when natural gas is available.

One practical feature of the gasoline super-tractors is the Star two-speed reversing transmission. It has two forward and two reverse speeds. There is no job too difficult for this power unit, for the two speeds in the transmission are overlapping. Control levers are conveniently located and easily operated.

An electric system provides light for night work. Pressing the electric starting button puts the machine in operation. The rear drive wheels of the new stars are of the crawler type, each wheel having 7 square feet of ground contact. This enables the machines to travel over any kind of country under their own power.

Complete information on super-tractors is contained in the Star Drilling Machine Company's illustrated bulletin No. 16. It is supplied on request from the home offices at Akron, Ohio.

"Gentlemen of the Exposition!

# You can do your talking later. I want one word here--now--"

## "I'm a Butler Bolted Tank

"I'm glad to see so many of you here. It was a pleasure to meet you in the oil field and I am sincerely glad to meet you here now.

"My purpose in life is to serve you. I go up quickly and stay put and hold tight. I have friends in every oil field. They know how I'm made. My exactness is not due to human hands. Giant machines take care of that. That's why I'm always ready for speed and can be depended on.

"That's not all.

### "I'm Instantly Ready

"to serve you through these reliable firms. Ask them more about me.

M & V Tank Co., at Wichita Falls, Vernon and Olney, Texas. Drane-Humphrey Co., at Fort Worth and Big Lake, Texas, and Carlsbad, New Mexico. Drane Tank Co., at Tulsa, Holdenville and Braman, Oklahoma, and Winfield, Kansas. May Tank & Supply Co., at Casper and Salt Creek, Wyoming. M. A. Trimmer, at Blackwell, Oklahoma. Wilson Tank & Culvert Co., at San Antonio, Texas. Los Angeles Mfg. Co., at Los Angeles, California. Continental Supply Co., at Kevin, Montana. G. J. Gillespie, 2, Whittington Avenue, E. C. 3, London, England."

## Butler Manufacturing Co.

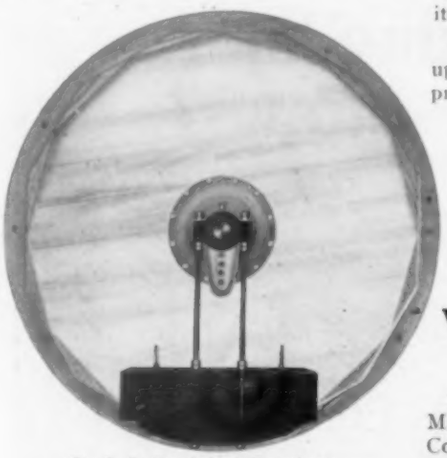
**Kansas City, Mo. Minneapolis, Minn.**

Other Butler Products are *Ready-Made* Steel Buildings, Cans, Funnels, Buckets, Measuring Pumps, Truck Tanks, Underground Tanks, Storage Tanks, Etc.

STEEL BUTLER PRODUCTS

## Oil Country Specialties Band Wheel Counterbalance

A bandwheel counterbalance that has been on the market a comparatively short time, but which is in extensive use, is being featured by the



O. C. S. Bandwheel Equalizer

Oil Country Specialties Manufacturing Company, Coffeyville, Kansas.

The wheel is used to counterbalance the weight of rods and fluid in the hole and does away with the old-time rock box, grasshopper or concrete block type counterbalance. The device is said by its manufacturers to save considerable power.

An important feature of the counterbalance is that its effect is applied right on the bandwheel and not at the pin in the crank.

Since the bearing in the counterbalance fits all sizes of shafts, and the hanger rods are made to fit all sizes of bandwheels, the counterbalance is adaptable in practically every instance where equipment of this kind is needed. It can be used on either wood or steel bandwheels, and the weights are added as extra counterbalancing if needed. This feature is important since different wells require different amounts of counterbalancing.

More facts about the equipment can be obtained from the company upon request.

## Little Giant Pipe Wrench Made in Variety of Sizes

Users of good tools will quickly appreciate the Little Giant pipe wrench, being manufactured and marketed by the Greenfield Tap and Die Corporation, Greenfield, Massachusetts.

Greenfield Tap and Die Company Little Giant Wrench

This wrench is made in five sizes to take pipe from ¾ to 2½ inches.

The positive grip, quick release, simplicity and strength of the wrench combine to make it one of the handiest tools of its kind.

Only three parts make up the wrench. It is practically indestructible.

Double jaws are provided on the 14, 18 and 24-inch sizes, with reversible feature.

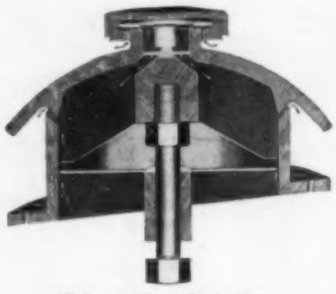
Unusually long leverage makes the wrench easy to operate.

Further information may be had upon request to the company.

## Vacuum-Pressure Valve Maloney Flow Tank Fitting

Flow tanks manufactured by the Maloney Tank Manufacturing Company of Tulsa are equipped with a new type of vacuum-pressure valve that has recently been perfected. This is a heavy type of self-seating valve and is especially adaptable where there is a heavy gas pressure.

The Maloney flow tank valve is a mechanical valve that is fitted on the deck of the tank and is so constructed as not to stick or get out of order.

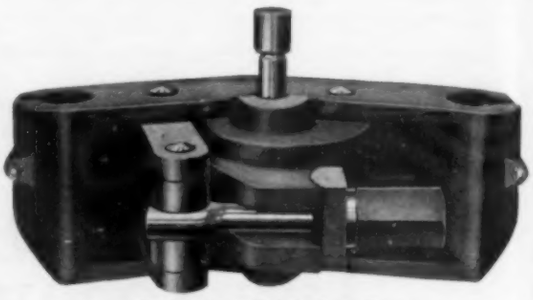


Maloney Flow Tank Valve

The valve automatically releases the pressure on a tank at eight ounces or more. The underside of the valve head is equipped with slanted wings that cause the head to release every time the pressure forces it up. This gives a self-grinding seat that turns at all times.

The vacuum on the valve is in the head and releases at about an ounce and a half. The body and head of the valve is constructed of cast iron and the vacuum part of the valve is made of brass. On all regular tanks made by the Maloney Company standard mechanical and liquid seal valves are installed.

Additional information will be mailed upon application to the Maloney Tank Manufacturing Company, Tulsa, Oklahoma.



Grant Forge Polish Rod Clamp

## Grant Polish Rod Clamp Has Design Improvement

Embodying several improvements in design, the Grant polish rod clamp, manufactured by the Grant Forge Shop, 2042-44 East Vernon Avenue, Los Angeles, California, is said to maintain a positive and sure grip on the rod at all times.

Machined to a perfect circle where it fits around the rod, this clamp will not injure the rod. The unique design offers such a tremendous leverage which can be applied through the tightening nut, that by screwing up the nut with one's fingers, it holds the rod so tight that it is impossible to turn the rod with both hands.

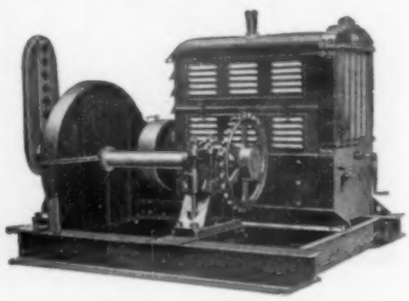
It can readily be seen what enormous pressure can be applied to the rod with this clamp when tightened by the special socket wrench made for this purpose.

Further information about the clamp can be had from the manufacturer.

## Waukesha Motor Puts Out Complete Pumping Unit

A gasoline pumping rig recently perfected by the Waukesha Motor Company, Waukesha, Wisconsin, has been announced by that company.

This is a complete portable outfit that combines in one unit the power plant, a standard California Pattern Parkersburg seven hole crank, on a 5-inch shaft with suitable sprocket connection to rod and tube pulling winch. Several of these out-



Waukesha Power Unit

# STAR

## 4 Cylinder Gasoline Motor Super-Tractor Drilling Machines

For reducing the cost of cleaning out and drilling nothing can beat these new Star Super-Tractors.

With crawler type wheels, powerful Waukesha Motors and Two-speed Transmissions they propel themselves equally well over good and bad ground.

Their Power Steering Device makes them easy to handle on the road. In fact, a superintendent of one large oil company was so pleased with this feature he would not let anybody else drive the machine on its first trip to location.

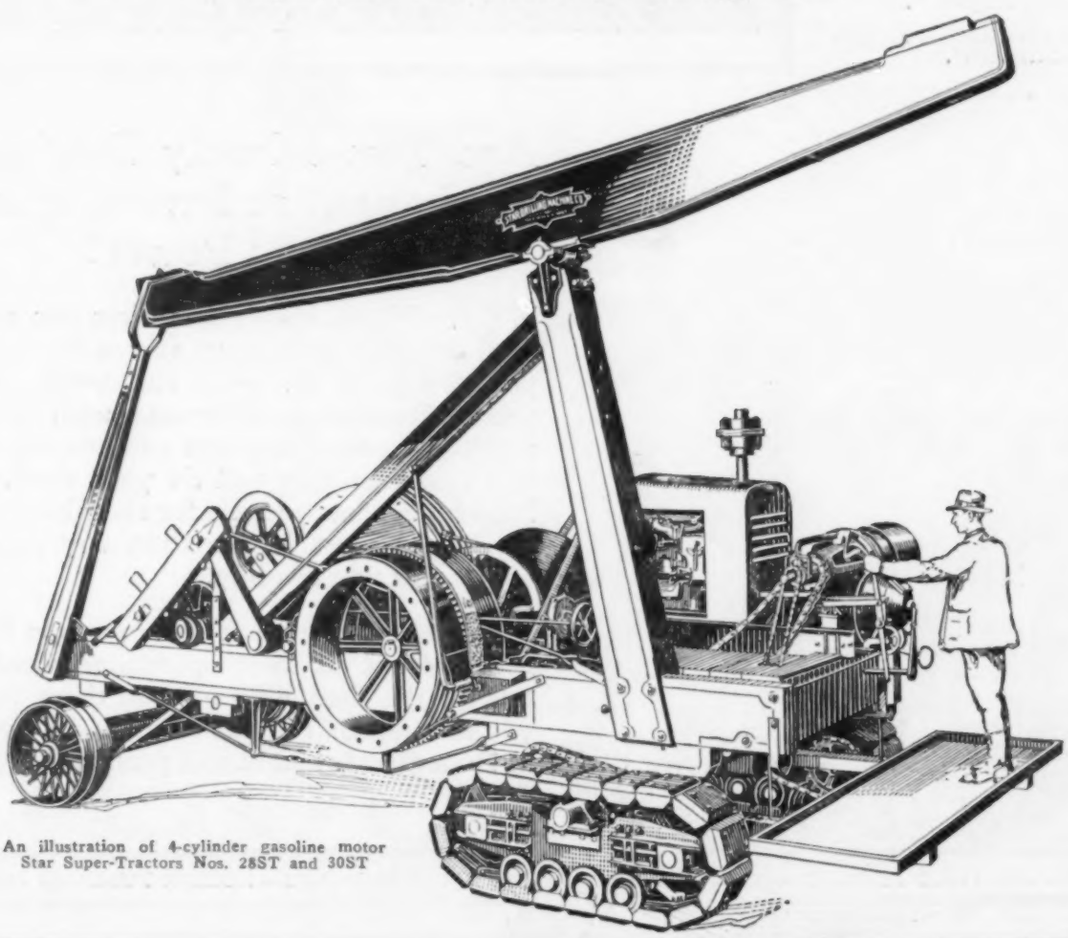
The cost of operating these new Star Super-Tractors is remarkably low. They run equally well on gas or gasoline. Because of the great saving in fuel cost, water, teaming, labor and quick movements from one location to another, they offer a big chance for economical drilling that cannot be overlooked.

Complete facts, performance data and illustrations are contained in the Star Bulletin No. 16. Write for it.

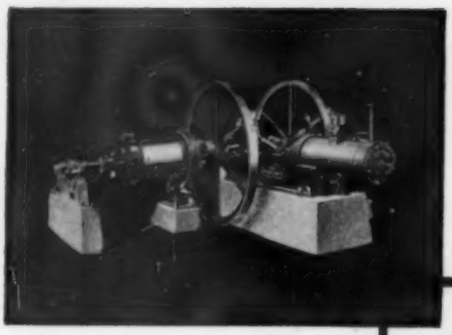
**THE STAR DRILLING MACHINE CO., AKRON, OHIO**

ESTABLISHED 1884

Branches at Chanute, Kansas; Wichita Falls, Texas; Long Beach, California; Portland, Oregon.
Export Office: 2 Rector Street, New York City, U. S. A.



An illustration of 4-cylinder gasoline motor Star Super-Tractors Nos. 28ST and 30ST



**Bessemer Oil Field Engines**
Simple, sturdy, wear-proof engines for hard oil country service. 8—10—12½—15—20—25—(25-30)—30 and 35 H. P. sizes.

## Everyday comments of Bessemer users

"Start 'em up, regulate 'em and let 'em run—that's all you have to do with Bessemers".

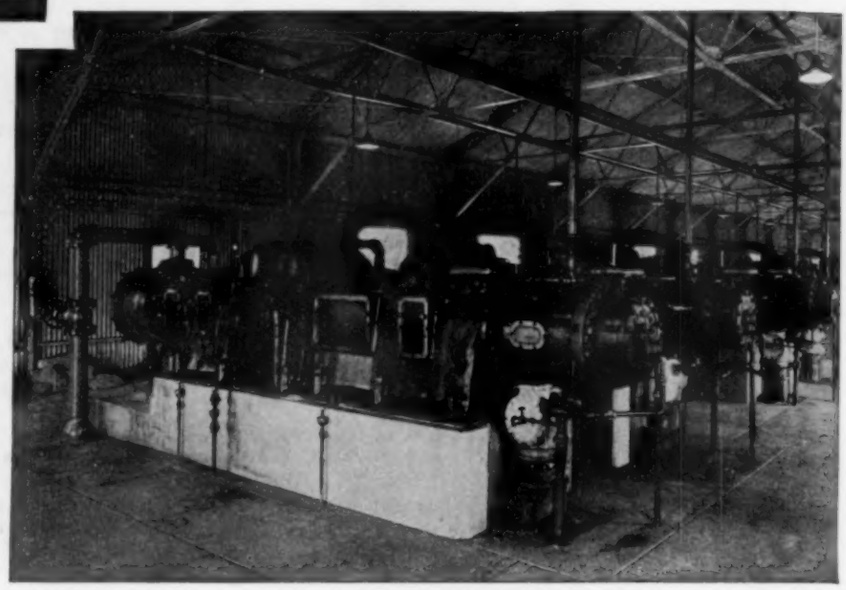
"Not too many triggers".

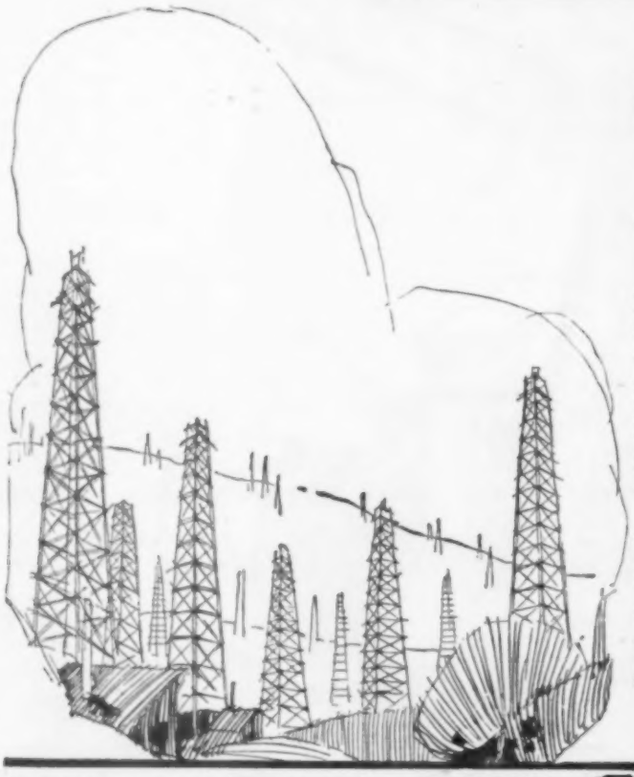
"There's less work on my job if I have Bessemers".

"That Bessemer of ours is the runnin'est engine I ever saw".

"Our engines sure have been 'Balling the Jack' ".

"The best engines we have are Bessemers".





# Are You Merely Buying Equipment or Investing in Oil Field Power?

WHEN you install Bessemers you are *investing* in a power source that will pay dividends for years and years and years. It makes no difference *what* your particular power requirements are, there is a Bessemer that will do your work a little better, cost you less for every hour of service and last longer than any other equipment you can buy.

Look at Bessemers that are at work in the fields, glance at their operating records, talk to the men who operate them and you will quickly realize that an investment in Bessemers is sound and profitable.

BESSEMER OIL FIELD ENGINES — COMPRESSORS VACUUM PUMPS — ROLLER PUMPING POWERS

*Say you saw it in The OIL WEEKLY*

Whether you need only one oil field engine, a single belt driven compressor or a small vacuum pump, or whether you need a battery of big direct driven compressors or large power units there is a Bessemer-built unit that is built for just your work.

There are more Bessemers in service in the oil industry than any other make of oil field power equipment. Why? Because Bessemers have consistently proved themselves by far the best during 28 years of service in the country's oil fields.

You, too, *need* Bessemer equipment. It is by far the cheapest in the long run.

Write for complete details on the particular equipment you need, or ask for a Bessemer engineer to call.

THE BESSEMER GAS ENGINE CO.
52 York Street Grove City, Pa.

***The most cordial invitation is extended the oil and gas fraternity to visit us, during the International Petroleum Congress Meeting in Tulsa, at our Tulsa office and warehouse, corner of First and Cincinnati Streets. Our latch-string will be out through the whole session.***

**Consistently re-ordered—Proof of Service.**

One Bessemer almost invariably leads to additional Bessemers. That's proof of operating service.

One large oil company operates 1,789 Bessemers. Totaling 59,627 H. P.

Another has 896 Bessemers. Totaling 41,211 H. P.

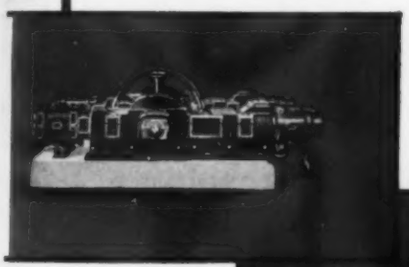
Another 990 Bessemers. Totaling 28,498 H. P.

Another 854 Bessemers. Totaling 27,703 H. P.

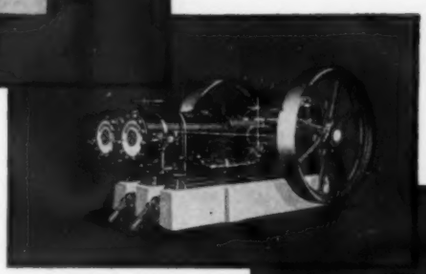
Another 379 Bessemers. Totaling 32,260 H. P.

And still another has 327 Bessemers. Totaling 23,825 H.P.

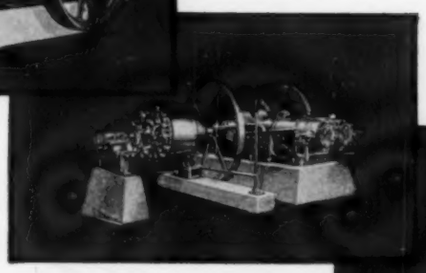
Figures like these prove Bessemer operating efficiency. That's why they consistently re-order Bessemers.



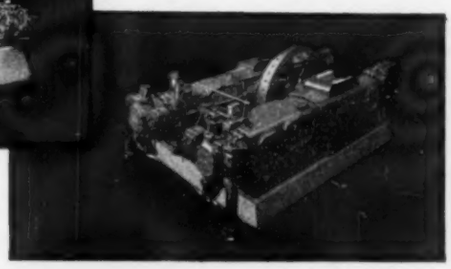
**Bessemer Type Ten Compressors**
No better compressor is built. Long lived, dependable, efficient and easily adjusted. 80 H. P. single and 165 H.P. twin.



**Bessemer Commercial Gas Engines**
Rugged, enclosed case engines that are trouble-proof and won't wear out. 15 H.P. to 165 H.P., single and twin cylinder.



**Bessemer FC-1 Compressors**
A masterpiece of 4 cycle compressor design and fabrication. Overstrength in every part, economical to operate and built to last. Built in 200 H. P. size.



**Bessemer Drilling Engines**
Husky engines, with special drilling clutch, that are rapidly replacing steam outfits. Economical to operate, speedy in drilling and easily transported. 45 H. P. twin.

# BESSEMER

BESSEMER OIL FIELD ENGINES — COMPRESSORS VACUUM PUMPS — ROLLER PUMPING POWERS

fits have been tested for months under Texas and Oklahoma field conditions. They are being built at the urge of practical oil men who now are using Waukesha motors and needed a reasonably priced pumping outfit equipped with these motors.

Its overall dimensions and weight are such that it can be carried to the well on a truck. It is 77 inches wide, 106 inches long and six feet high. The weight is about 8000 pounds.

The entire unit is carried on heavy "H" section structural steel girders, hot riveted together and adequately braced. The ends are turned up making it easy to skid the unit into position at the well. Only a foundation is required at the well as the unit is just as weather proof as an automobile.

The power is transmitted from the engine to the crank through a triple reduction gear with all the gears running in oil and completely enclosed.

A standard 50 H. P. oil field power unit which runs on either waste gas or gasoline provides the motive power.

Two gear ratios are provided to meet both shallow and deep well pumping conditions. At maximum engine torque the lower gear ratio gives 15 and the higher 20 strokes per minute. The range of pumping speeds is from 12 to 35 strokes per minute.

The crank and its shaft are made by Parkersburg Rig & Reel Company and are of the heavy California pattern. The crank shaft is carried on chain oiled Parkersburg Jack Post Boxes. The crank has seven holes for the pitman pin and permits a range of strokes from 35 to 70 inches.

Portable Rotary Rig Company of Houston, Texas, build a special winch to go with this pumping unit. A 1030 chain sprocket is provided on the crankshaft to drive the winch. Any size of sprocket having less than 28 teeth can be mounted on this shaft. The shaft is of such length and provided with full length keyway so that the sprocket can be mounted anywhere along the shaft so as to line up properly with the winch.

Additional information can be had by writing the Waukesha Motor Company, Waukesha, Wisconsin.

Cameron Iron Works Blow-out Preventer

## Zero Hour Time Bomb Has Wide Use in Well Shooting

The Zero Hour Torpedo Company has recently announced several important improvements in the details of its electric time bomb—an electrically operated, time controlled detonator for putting off shots in oil wells.

Zero Hour Torpedo Bomb

The Zero Hour Bomb consists of a chronometer and a dry cell mounted in a tube of special construction. In the tube is also provided receptacles for electric blasting caps and dynamite, the entire assembled unit being enclosed in a patented magnetic-proof shell.

By a new process, upon which patent is pending, the crystal of the watch is made practically unbreakable, thus holding the platinum firing pin as rigidly as if supported by metal.

The Zero Hour Company reports over 1000 successful shots during the past year. While many of these have been in wells where no other method of shooting could be used, it is interesting to note that many producers are replacing jack squibs and all other means of detonation with the Zero Hour bomb as a matter of safety and insurance.

Further information can be secured from the Zero Hour Torpedo Company, P. & R. Building, Casper, Wyoming.

## Improvements in Cameron Iron Blowout Preventer

A number of improvements have been announced by the Cameron Iron Works, Houston, Texas, in its blowout preventer.

To begin with, all parts formerly made of cast iron are now being made of high-grade steel, making the preventer an all-steel product.

Two sizes of the preventer are now manufactured. In addition to the 10-inch, 8-inch, 8¼-inch, 6⅝-inch and the 6-inch pipe styles, the company now has a 12-inch and a 12½-inch size. This enlargement in size is to meet the growing need for a bigger preventer.

The patented preventer packing of the Cameron Iron Works is made with a small groove cut in the side, which contains the secret of the enormous pressure the preventer is capable of withstanding. This groove forms a lip which is forced against the inside walls of the preventer body when pressure is applied to the packing, thus making the packing tighter as the pressure increases.

High-grade oilproof pure rubber is used for the packing.

More information can be secured by writing the company.

## Mascot Improved Idler Is Adaptable to Heavy Work

The Mascot No. 3 improved idler, now being manufactured by the Geo. W. Grimes Company, Bluffton, Indiana, and used in conjunction with their Mascot bandwheel pumping powers, is especially adapted for very heavy duty work.

All parts of this idler are heavily reinforced, the pulley shaft and guide rods being made of 27/16-inch steel. The pulley is 24 inches in diameter, being of the single-arm type, the hub having bronze bearings in both ends.

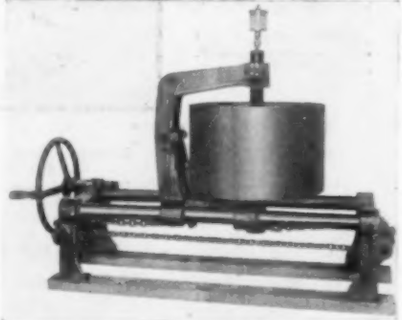
The idler has two bearing plates upon which the pulley rests and revolves. These bearing plates, as well as the lower bearing of the pulley hub, run in oil at all times, being supplied by a large oil basin holding about a quart of oil.

The upper bearing of the pulley hub is furnished with oil by a large sight-feed oil cup attached to the top of the pulley shaft.

This oiling system has proved to be positive-acting, and for that reason makes this Mascot idler one that will stand for all the grief given it by heavy duty work.

Aside from the improved oiling system described above, this idler has all the patented features of the original Mascot idler.

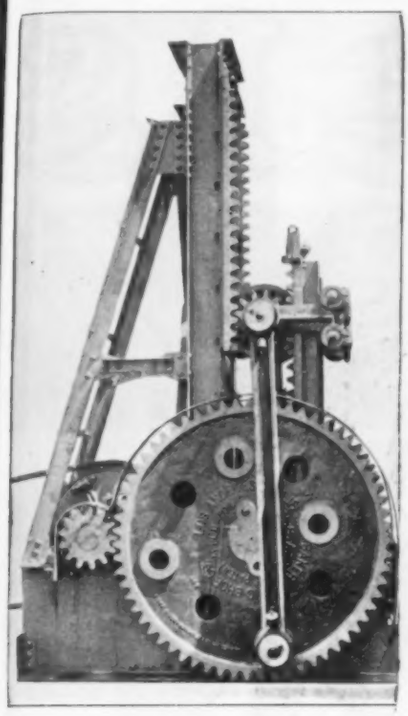
For further information, inquire at any branch of the Continental Supply Company, or write the George W. Grimes Company, Bluffton, Indiana, builders of Mascot pumping powers and Grimes power pumps.



Mascott Improved Idler

## Mechanical Long Stroke Displayed at Exposition

The Baker Casing Shoe Company's mechanical long stroke is a rugged, powerful machine, designed and constructed to fill every need. Its heavy, structural steel frame is hot-riveted. Its drive sprocket is of manganese steel. Its pinions are of chrome-carbon steel. The extra large drive shafts are carried on copper-hardened babbitt in ring-oiling bearings. Other bearings are lubricated from a positive sight-feed oil pump. The one aim has been



Baker Long Stroke Pumper

to build a machine that will "stay on the job."

The choice of one of its four lengths of strokes—5-foot, 6-foot, 7-foot, and 8-foot—affords the operator a range productive of maximum results.

Its power consumption is nominal, due to the effective counterbalancing of the rods and oil.

The Baker Casing Shoe Company has its general office in Huntington Park, California, and is represented in the Mid-Continent by the B. & A. Specialty Company of Tulsa, Oklahoma, who will have a model of the long stroke on display at their booth at the Exposition.

An attractive folder, containing photographs, will be sent on request.

## Tractor Winch Claims Safety and Time-Saving

A tractor winch especially adapted for pulling rods, tubing and casing from practically any depth of oil well, with minimum of time and the least amount of extra equipment and labor, is announced by the Advance-Rumely Thresher Company, Inc.

Construction in the winch has been made rigid and strong to obtain maximum safety and efficiency. The Oil-Pull clutch is of the external expanding shoe type and starts the heaviest load without jerk or jar. All working parts of the winch are mounted on a riveted steel frame of 10-inch steel channels, which in turn are bolted securely to the main tractor transmission case. The semi-steel drum is keyed to a 3¼-inch steel shaft driven by a 1¾-inch pitch roller chain. The brake wheel is 28 inches in diameter and 6 inches wide. A slight pull on the brake lever will stop or retard the lowering load.

As a measure of safety, the friction brake on the belt wheel of the OilPull tractor can also be applied to the drum when the jaw clutch on the countershaft is engaged. This gives two brakes, either one of which, under ordinary conditions, could stop or retard the load.

If the tractor should accidentally break loose from its anchorage while in operation, and crash into the derrick, the operator is given the maximum of protection due to his being located on the platform at the rear of the tractor. The radiator, engine and exhaust pipes act as a shield if a line should break and snap back.

The winch has a maximum pull of 8500 pounds. With this pull it is said to handle rods for any depth oil well, and tubing for wells up to 1800 feet, with a single line. For wells deeper than 1800 feet, tubing and casing can easily be pulled with auxiliary blocks.

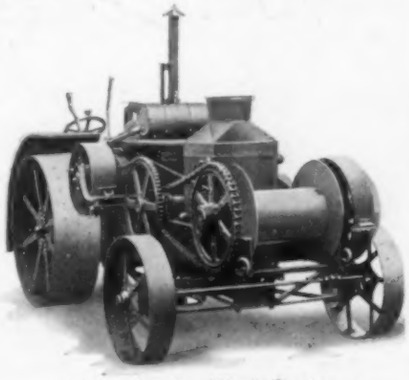
The motor is rated at 35 horsepower, but has developed 43 horsepower. This power is transmitted directly to the hoisting drum with only two reductions, through roller chains. This gives not only a heavy pull on the line, but also exceptional line speed.

When connected to the engine, the line has a reverse speed of 370 feet per minute. By disconnecting the drum from the engine, the drum becomes free and still greater lowering speeds can be obtained.

An auxiliary drum is supplied to increase the line speed.

Two heavy draw bars without springs furnish positive means of rigidly anchoring the tractor, when a snatch block is used on the platform. Where it is desired to pull directly from the drum up over the crown block the front end of the tractor can be anchored down by fastening to the two large hooks, which are bolted to the front ends of the tractor frame.

Additional information will be supplied by the Advance-Rumely Thresher Company, Inc., La Porte, Indiana.



Advance-Rumley Winch Tractor

Page Fence for oil field properties

## Page Has Fence for All Field Purposes

The Page Steel and Wire Company, Bridgeport, Connecticut, has completed its line of Page interlocked, square mesh wire link fence for warehouses and other properties in the petroleum industry requiring protecting enclosures.

There are now six distinct types of Page protection fence, all but one of which are available for installation with or without top rail, and all but two with barbed wire arms and strands. Barbed wire is supplied in the complete line in 3, 5 and 6 strands, with or without top rail.

The wire link fabric enables erection without excessive stretching of the wire. It is supplied in mesh of 1½ inches or 2 inches, and in 6, 9, 11, 12 or 14 "steel wire gauge." The fabric is galvanized after weaving by a perfected process which supplies a uniform coat of super-heavy zinc to make a more durable fence.

Page protection fence is now furnished in heights of 3 to 12 feet. For most properties in the oil industry, either No. 9 or No. 6 wire is specified, the metal either Page steel or Armco ingot iron. The barbed wire is made of Armco ingot iron.

Definite printed specifications for all standard types of Page fence are supplied for buyers who have their own crews, although trained crews maintained by Page distributors are available.

More data can be had from the company upon application.

## Billings & Spencer Wrench Valuable in Close Quarters

A wrench ideal for use in close or cramped quarters is put out by The Billings & Spencer Company, Hartford, Connecticut. It is being sold under the trade name of Billings Chain Fitting Wrench.

This wrench differs from the Billings Patented Reversible Chain Pipe Wrench in that the outer jaws and the solid bolt and nut are removed, leaving the tool-steel replaceable center jaw, the chain and the handle.

This narrow, sturdy fitting wrench is ideal for use in close or cramped quarters, and on flanges, right and

# Wheels

## 20,000

*Bull Wheels*

*Calf Wheels*

**LEE C. MOORE & CO., Inc.,**

Pittsburgh, Pa.

ESTABLISHED 1907

Casper, Wyo. Midwest Building
Dallas, Texas Magnolia Building
Tulsa, Okla. Atlas Life Building
Shreveport, La Washington Hotel
Parkersburg, W. Va. Union Trust Building

*Say you saw it in The OIL WEEKLY*

# of Steel now in use

## Up Front!

Little by little the oil "game" has developed into a keenly competitive industry. In such an industry, efficiency of operations and permanency of plant and equipment count as heavily in the scale of success as resources of men and money. First-born children of this development were the Moore wheels, derricks and equipment of steel. Nearly eighteen years ago they first saw the light of day. So strong and healthy were they that many lean years only served to toughen and harden them. They grew into lusty youth and robust manhood, becoming first graduates in the school of hard knocks and experience.

Improvements followed improvements. To make them practically indestructible was our aim. Over 20,000 wheels sold and in use now testify to the outstanding merit of Moore design and construction.

Now, when you change from wood to steel, why not go the whole length and get the best? Why ride on the trailer when you can have a seat with the pilot up front?

*Band Wheels*

**MOORE TUBULAR STEEL DERRICKS**

left-hand fittings and coils, where a broader-nosed tool or the ordinary chain pipe wrench would be ineffectual.

The construction of the Billings Chain Fitting Wrench enables the

Billings & Spencer Pipe Wrench

user to get a straight pull and keep the strain off of both the pipe and the fittings. It is the ideal pipe wrench for use in oil refineries and wherever there is need for a strong, narrow chain pipe or fitting wrench.

The tool-steel replaceable center jaw, the proof-tested chain with the oversize proof-tested chrome nickel master link, and the drop-forged steel handle are identical with the components in the same size Billings & Spencer Reversible Chain Pipe Wrench. The head of the wrench is drilled and reamed so that it can be instantly converted into a Billings Reversible Chain Pipe Wrench by merely adding the double-ended reversible jaws and the oversize solid bolt and nut.

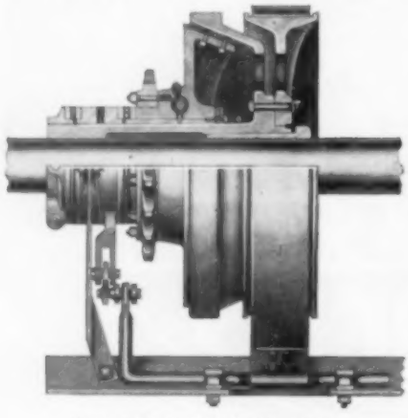
The chain locking lugs are drop-forged on the handle of the wrench, thus placing the strain where the wrench is strongest, and they are so designed as to make easy the attaching and releasing of the chain.

Further information can be secured from the company.

## Attachment Converts Friction Sand Reels to Chain Drive

The Emsco Steel Products Company of Los Angeles, California, has provided the oil industry with a means of converting friction drive sand reels into modern chain drive reels at a relatively small cost.

The attachment is applied by removing the friction or brake wheel and sliding the attachment on the shaft and keying in the shaft keyway. The clutch and brake are operated through



Emsco Sand Reel Attachment

the regular reach rod to the derrick floor with the same lever action as the friction type. The asbestos lagged cone clutch permits a smooth pick-up, eliminating snapped lines and attendant fishing jobs, while the large diameter asbestos lined brake wheel affords perfect control at all speeds. The attachment can be bored and keyseated to fit all shafts.

This attachment can also be supplied with the complete sand reel.

Further details may be secured from company headquarters.

## Easy-To-Get-At Stuffing Box Darling Valve Idea

Darling Valve & Manufacturing Company, Williamsport, Pennsylvania, is adding a new cast steel drilling gate valve to its widely known line of valves for oil field use. According to the manufacturers, the new valves have many improvements over the type which they replace.

These new features include an extra deep and easy-to-get-at stuffing box that minimizes leaks and does away with frequent packing.

A ball-shaped stem collar allows the

New Darling Gate Valve

stuffing box to be repacked when the valve is either opened or closed.

The valve has exceptionally strong discs of either forged steel, bronze-faced or solid forged steel. Also, the lower compound equalizing wedge is of extra hard solid bronze.

Seat rings are concealed in the body and fully protected against injury from tools or casing.

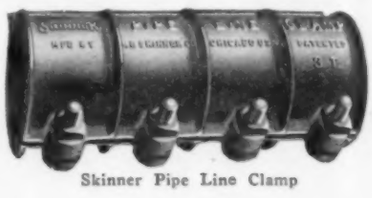
Clearance through the seats is practically two inches greater than the inside diameter of the pipe or casing.

Each end of the valve has a guard ring, cast integral with the body to guide the tools and pipe through the valve.

An extra large, straight through stem of great tensile strength insures against twisting or binding.

Independent gland bolts permit removal of the gland without disturbing the stuffing box bolts.

Flanged joints are made with bab-



Skinner Pipe Line Clamp

bitted faces (male and female) and fitted with high-grade gaskets.

Complete data will be mailed upon request to the company.

## Skinner Clamp for Leaks And Breaks in Pipe Lines

For repairing long splits and pipe lines that are corroded for six or eight inches, the M. B. Skinner Company, 558-562 Washington Boulevard, Chicago, Illinois, recommends its pipe line clamp.

This clamp is made of malleable iron, has long hinges and handy bolts on one side only, and has strength for any operating pressure.

The fact that this rugged, simple clamp of malleable iron assures the user that it will stand up indefinitely under the worst soil or atmospheric conditions. Malleable iron may be hammered to shape for distorted pipe.

The clamp is furnished in various sizes. Further information can be obtained upon iquiry from the company.

## Repair Bills Cut By Temper Screw Elevator

The elevator on the Burns tubular temper screw is of a distinctive design and is an entirely new patented feature of tools of this kind. The complete screw is manufactured by the Burns Tool Company at Okmulgee, Oklahoma.

The elevator on the Burns temper screw is slotted and fitted with a bolt and nut. This enables the operator to tighten up as the hexagon end of the jockey stick wears. This has brought about a material saving in production costs through the cutting down of repair bills.

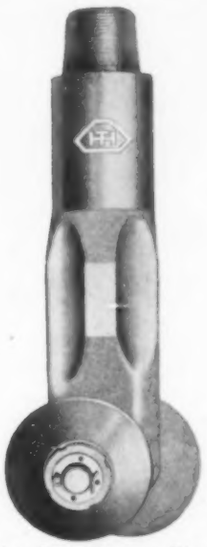
Made of electric steel, the elevator on the Burns screw will stand up under adverse field conditions and the screw as a whole has become standard equipment not only in domestic fields but in foreign countries as well.

The Burns Tool Company, Okmulgee, Oklahoma, will give more information on request.

Burns Temper Screw Elevator

## Special Disc Bit for California Drilling

For many years the Hughes Tool Company has marketed a disc bit that was very successful in the Austin chalk and some other semi-hard formations encountered in the Mid-Continent field, but never encountered in California. After experimenting in California with



Hughes Tool Company Disc Bit

the same bit, it was found that it was not adapted in its present condition to the peculiar formations encountered in California. The fundamental principles of the design are correct, however, and this prompted the company to develop a bit for California conditions. Very quietly, and over a period of nearly three years, the Hughes Tool Company has experimented and perfected a disc bit that has many advantages, among them being:

1. The bit drills sandy shale, soft rock and medium hard formations several times faster than a fishtail bit.

2. The design of the bit head is such that it has great strength and ruggedness to withstand severe usage.

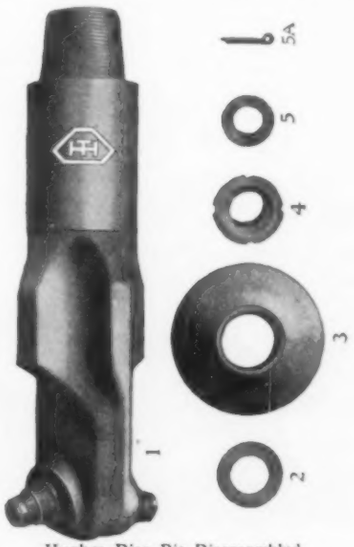
3. It drills through sticky formation without balling up.

4. The bit cuts full gauge hole, and it is practically never necessary to ream after it.

The water course is located directly between the discs and feeds the full force of the fluid at the bottom of the hole. The bit head is made out of chrome nickel steel and heat treated to give greatest possible strength. The design of the bushing and lock nut, which holds the discs in place, is very simple, and permits rapid change of discs on the derrick floor. The position of the discs on the outside of the head prevents any wear taking place on the bit head itself.

Over 600 sets of discs were tried out on the bit in its experimental stages before offering it to the public, and many superintendents, drilling foremen and drillers who have used it are enthusiastic about the bit. More than one driller has referred to the bit as a "hole-making fool" and a "bearcat" in sticky drilling.

The Hughes Tool Company, Houston, Texas, will give further data.



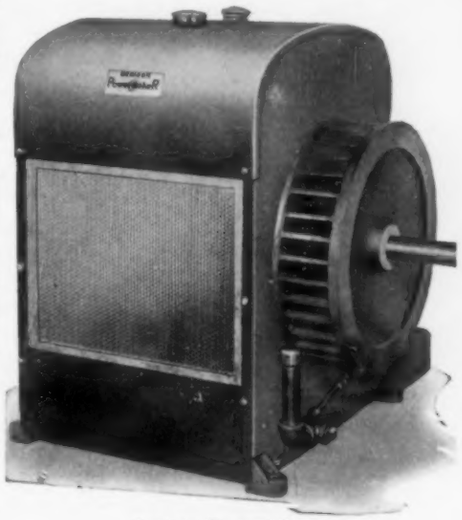

Hughes Disc Bit Disassembled

## Denison Powermaker New Internal Combustion Engine

The Denison Powermaker, a new type of internal combustion engine, is designed especially for contractors' equipment. In the Denison Powermaker, engineering features that have proven so successful in European countries have been used. It is an inverted, two-cylinder, four-cycle, watercooled engine, entirely housed in a 16-gauge pressed steel casing. The cylinders, bearing standards and base are all included in one casting, which makes the unit very rigid, with permanent and proper alignment of piston, crank shaft and cam shaft. This also lowers the center of gravity over the entire unit.

The crank shaft, cam shaft, magneto, governor assembly, and also the connecting rods being located on top of the main base casting, are very accessible, so that adjustments can be quickly and easily made. The valve box which includes the valves, intake and exhaust manifold and carburetor, can be quickly and easily removed by taking out six machine bolts. It is an extremely simple and compactly built engine.

Cooling water from the radiator upon entering the cylinder block, strikes the cylinder head, which is the hottest part of the unit, and raises as it is heated, producing rapid water circulation and uniform cooling. Air is drawn through the radiator, which is mounted at the rear of the main casting, by a flywheel Sirocco type fan. The radiator is shrouded so that the dust and dirt going through it with the air does not come in contact with any part of the working mechanism.



Denison Powermaker

The fuel tank is located at the top of the housing. Access to the working parts and the valve box compartment is effected by removing the front cover, which is a 16-gauge pressed steel piece, and can be locked in place, making it impossible to tinker with the mechanism by one who is not authorized to do so.

Further information can be obtained from the Cook Motor Company, Delaware, Ohio.

## Construction Simplicity Is Ohio Injector Feature

To meet present-day steam conditions, the Ohio Injector Company, Wadsworth, Ohio, is marketing the Chicago Automatic Injector.

This injector has found a big market among drilling contractors in the oil fields.

Capacity of the injector is extremely large, and should the tubes wear, they can be replaced with an ordinary monkey wrench. No special tools are required.

Because of its simplicity of construction, the injector requires little adjustment and will operate on a minimum of attention.

Any branch store of the Continental Supply Company, or the company at Wadsworth, Ohio, will supply further data on the injector.

Chicago Automatic Injector

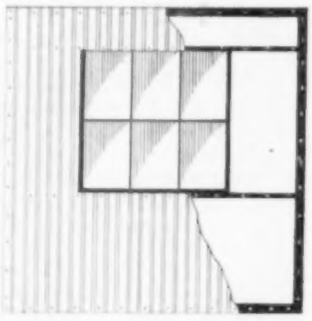
## One-Piece Sections Make Strong Steel Buildings

One of the latest improvements in sectional steel building design is the one-piece solid angle sections designed and perfected by the engineers and found exclusively in the sectional steel buildings sold by A. G. Ehlinger & Company, of Tulsa, Oklahoma.

The illustration shows a typical section, the outside angle of which, by the exclusive process of manufacture, is in one piece, making it approximately twice as strong as a riveted section and eliminating all side sway. The section is absolutely square and makes erection by unskilled labor simple, a very economical feature. All patches or extra sheets over the joints are eliminated in this building, as the improved section makes a tight weather-proof joint.

All sections are interchangeable and can be moved at any time. These buildings have a salvage value of 100 per cent and can be dismantled, moved and erected on a new location, with little trouble, at no extra cost for material, making the cost of this type of building cheaper than a wooden building, with the added features and fire-proof construction.

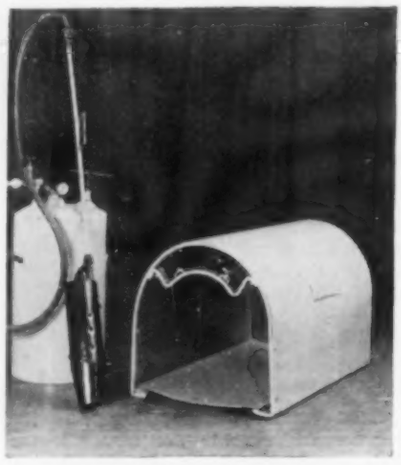
A standard 16x16x8 sectional steel engine house is shown in the illustration. These buildings can be furnished in any width, height or length, from the small engine houses to the larger power houses, boiler houses, gasoline plants, etc., up to large warehouses,



A. G. Ehlinger Sectional Steel Building

some as large as 50 feet in width and from 300 to 700 feet in length.

Further information and the advice of the company's expert engineers can be obtained on these buildings, which are being used by the largest oil companies in the country, by writing A. G. Ehlinger & Company, Tulsa, Oklahoma.



Chausse Pipe Bending Outfit

## Chausse Oil Burner Used In Bending 10-inch Pipe

Bending of large diameter oil pipes in the new pipe line being laid across the Andes Mountains presented an unusual problem to the constructors. It was impractical to bend the pipes at the main supply base, and the contour of the country made it extremely difficult to have pipe bending shops in the field. The engineers laying this 270 mile line of ten-inch pipe commissioned the Chausse Oil Burner Company of Elkhart, Indiana, to construct oil burning benders which could be used in the mountainous territory.

The resulting apparatus is shown in the accompanying cut. This has proven very successful in making long radius bends, and has resulted in the shipment of 18 benders to field camps along the right of way. These torches are used for other purposes, such as burning weeds, melting tar, lead, babbit, pre-heating, or any other service for which a large volume of heat is required.

The pipe benders consist of standard Chausse 12-gallon hose connected torches and a bending hood which is 36 inches long, 22 inches wide and 23 inches high. In this instance the 10-inch pipe is hung from the steel construction within the hood, and either one or two burners directed into the hood until the pipe is at the proper temperature for making an easy bend. Both the hood and torch can be carried, and are therefore valuable in field operation. The torch of this size consumes three gallons of kerosene per hour to obtain a maximum heat of about 1800 degrees. In service it is not always necessary to burn this at maximum consumption, because the volume of heat generated is very great. The burners are gas generators and no air pressure is necessary, other than that required to keep a pressure of 25 to 30 pounds on the kerosene in the tank, for which the hand pump is a part of the tank assembly.

Further information will be supplied upon request to the company, Chausse Oil Burner Co., Elkhart, Indiana.

## Reversible Jack-Shaft Transmits Climax Power

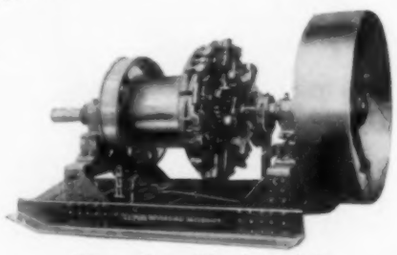
Power from the Climax Self-Contained Unit, manufactured by the Climax Engineering Company, Clinton, Iowa, is transmitted to the drilling rig through a reversible Jack Shaft by heavy belts.

This consists of a large belt drum or flanged pulley which is connected to the drive shaft through clutches. The "go-ahead" clutch is of the clamping shoe type, with a flyball releasing weight on each shoe, and the reversing clutch is of the planetary type with differential gears and is operated by a brake band on the outside of the housing for the pinion spider. All gears are machined, totally enclosed, and run in oil. Both clutches are operated by a single lever in the derrick house, the clutches being "free" in the neutral position.

The Jack Shaft is of alloy steel, four inches in diameter, mounted in two large adjustable bearings which are carried by the heavy steel frame. Each bearing is lubricated by a chain, which carries the oil up from the reservoirs below. The drive pulley is 48 inches in diameter, and takes the belt from the power unit on the other end of the skids. The band wheel belt driving pulley is mounted between the bearings, and the engine belt pulley is outside. The clutch bands are interlocked so that it is impossible to set them both at once by accident.

The main frame for the Climax Jack Shaft is of structural steel and heavy plates, hot riveted to insure permanently tight connections, and the ends of the lower side rails are turned up at one end for ease in skidding the Jack Shaft unit from station to station. Rope or chain hook holes are provided in the runners, and two large eye-bolts are attached to each side of frame for taking the turnbuckles used in mounting Jack Shaft to main skids.

Additional information can be obtained from the company, upon request.



Climax Reversible Jack shaft

# A Double Welcome!

TULSA, the home of the Petroleum Exposition, is also the home of GASO Pumps. Here is a chance to make your visit doubly profitable. First see the "show." Then make it a point to see where and how the most celebrated pumps in the oil industry are manufactured. Our plant at 902 East First Street is on the way to the Exposition grounds. We're expecting you.

GASO PUMP & BURNER MANUFACTURING CO.

**BOOTHS**
6 and 7 Kansas Building
at the Exposition
**OFFICE AND PLANT**
902 East First Street
TULSA

# GASO PUMPS

*Say you saw it in The OIL WEEKLY*

MUCH of the reputation of Bridgeport in the oil fields is due to the practice of handling goods whose reputation has been proven beyond a possible question.

None in the experimental stage, either of their own manufacture, or made by others, are found among the tools and supplies offered to the oil trade through its various branches.

The company's constant adherence to this policy through the many years it has been serving the producers of petroleum has created for it a reputation that is not even approached by many other houses in this line.

The sale or rental of many special tools, and the purchase of many oil field supplies goes on night and day at the following points:

| | | | |
|---|---|---|---|
| Wichita, Kans. | Winfield, Kans. | Wetumka, Okla. | Pawnee, Okla.* |
| Russell, Kans.* | Tulsa, Okla. | Tonkawa, Okla. | Panhandle, Tex.* |
| Gorham, Kans. | Depew, Okla. | Garber, Okla. | Ranger, Tex. |
| El Dorado, Kans. | Stroud, Okla. | Braman, Okla.* | Breckenridge, Tex. |
| | | | Marietta, Ohio. |

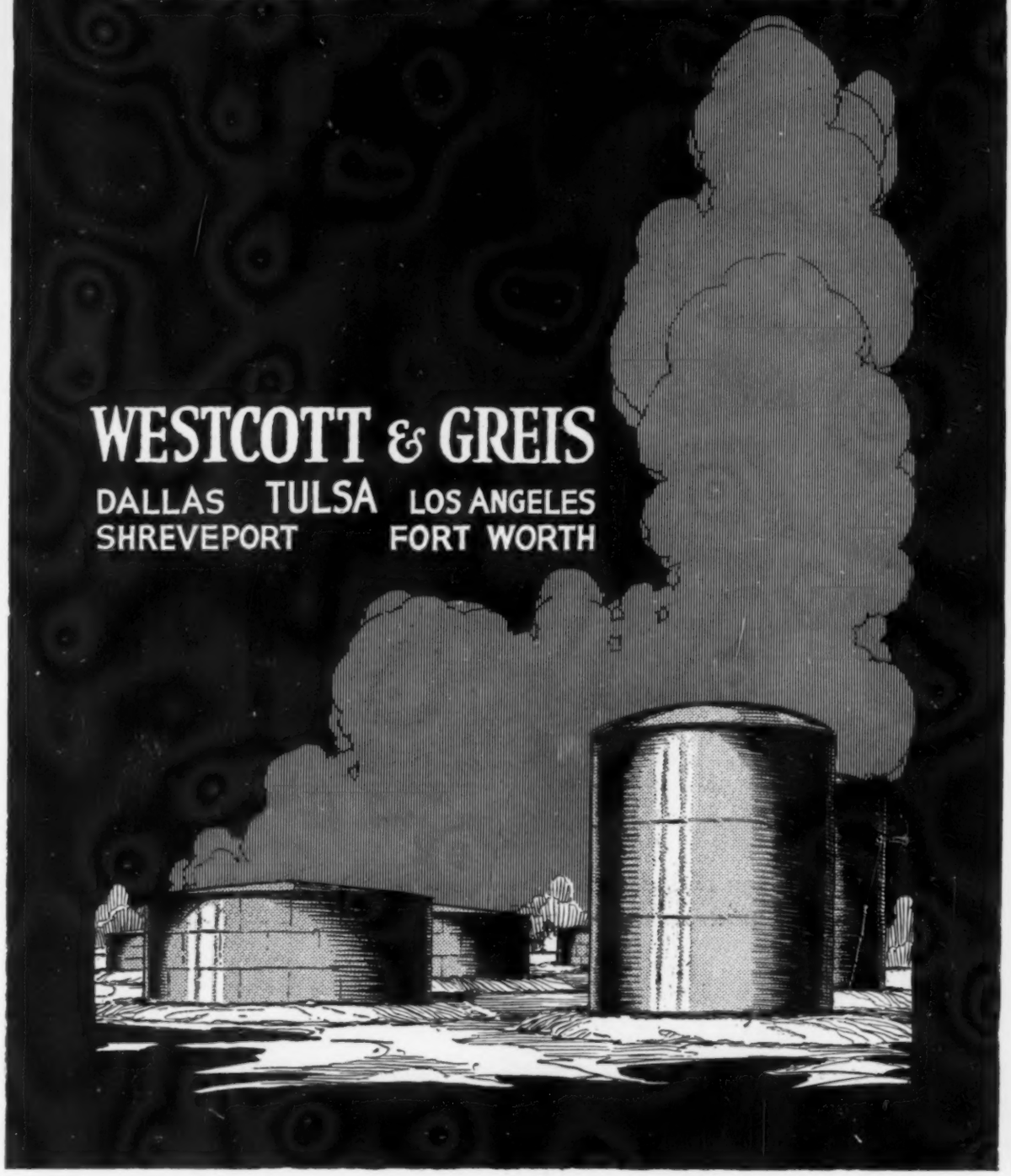
A complete stock of contractors' supplies carried at points indicated by a star.

THE BRIDGEPORT MACHINE COMPANY

General Offices & Works WICHITA, KANSAS

*Say you saw it in The OIL WEEKLY*

# CONSERVATION & SAFETY ENGINEERS

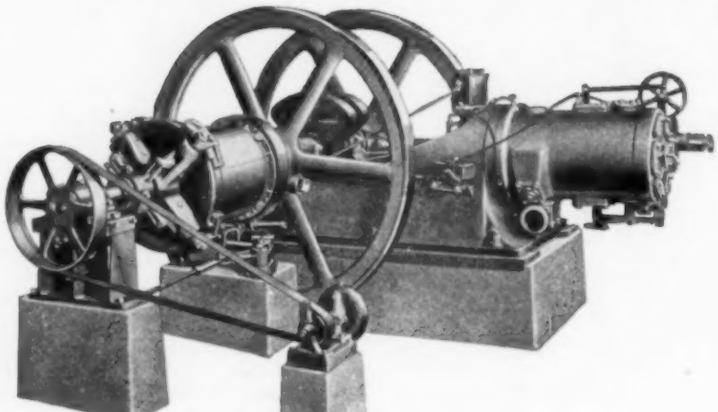


## WESTCOTT & GREIS

DALLAS TULSA LOS ANGELES
SHREVEPORT FORT WORTH

# *ANNOUNCING*

# THE 35 HORSEPOWER REID GAS ENGINE



A NEW Reid Gas Engine—the 35 Horse Power—operating on the same principles which we have so successfully used for over 30 years.

A large shaft, wide bearings, exhaust ports thoroughly water-jacketed and many other new features combine to make this engine one worthy of the name of Reid.

Its power and flexibility make this engine exceptionally well suited for drilling work.

A one-way reverse or cut-off type clutch, whichever is desired can be furnished.

Let us tell you more about this new engine. Write for detailed description.

*Be sure to see this engine at the Tulsa Exposition*
*On exhibition in the Frick Reid Supply Company Booth*

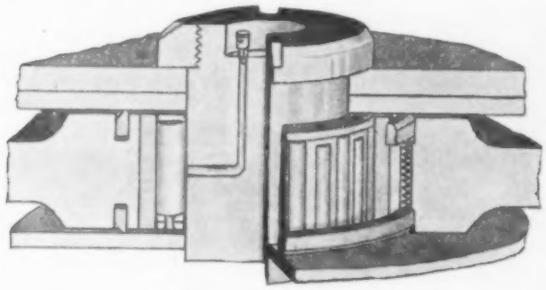
## JOSEPH REID GAS ENGINE COMPANY

### Oil City, Pennsylvania, U. S. A.

BRANCHES AND AGENCIES: Marietta, Ohio; Logan, Ohio; Newark, Ohio; Ft. Recovery, Ohio; Shreveport, La.; Charleston, W. Va.; R. B. Moore, Bolivar, N. Y.; Frick & Lindsay Co., Bradford, Penna., and Kentucky Distributors; S. R. Shoup, 708 Pacific Electric Bldg., Los Angeles, Cal. Frick-Reid Supply Company, Tulsa, Okla., and Branches, Distributors for Oklahoma, Kansas, Texas, Arkansas and Wyoming.
BRANCH SHOP, TULSA, OKLA.

## Lubrication Is Feature of "Gulfco" Roller Bearings

A new type roller bearing which is finding a ready market among coastal operators has been developed by the Gulf Coast Machine and Supply Company, Beaumont, Texas. It is called the "Gulfco" roller bearing.



"Gulfco" Roller Bearing

The rollers are made of chrome nickle steel, supported in a bronze cage.

Each sheave is individually lubricated with the alemite grease gun supplied with each block.

The filling cups are countersunk into the head of the center pin which protects them from any chance of becoming knocked off.

Both sides of each sheave are grooved and fitted with bronze grease retaining rings, held into firm contact with the plates by a series of springs as shown. This makes a grease-tight bearing that can be kept well lubricated with little attention.

More information will be sent upon request to the company, Gulf Coast Machine and Supply Company, Beaumont, Texas.

## American Blower Has Heater for Field Use

A method of heating said to be a revolution as far as its accomplishments go, has been perfected and is now being marketed by the American Blower Company, Detroit, Michigan. This method is adaptable to heating oil field properties, etc.

The results of the Venturafin Method of Heating are secured by means of individual Venturafin Heaters which are so designed and constructed that they can be placed in practically any position and they will effectively distribute heat over large areas.

Each Venturafin Unit consists of three distinct parts: an aerofin heating coil, a Ventura Fan, and a recirculating box.

The Aerofin Heating Coil, as used in the Venturafin Heater, is made of steam coils of copper and brass, both offering much less resistance to the transmission of heat and weighing considerably less than iron. Each coil is helically wound with a brass ribbon in such a way that it forms a continuous "fin". This "fin" is so bent that a large surface of the fin is in contact with the outer surface of the tube, and this union is later treated so that the fin and the tube become metallically integral. By means of this construction, which is patented, the heat transmitting surface is made nearly 5 times greater than that of the tube alone.

The Ventura Fan as used with the Venturafin Unit is the most efficient disc fan on the market. It has ten overlapping blades made of heavy steel plate, propeller shaped to give the greatest efficiency known. It is equipped with a large central disc which prevents the air from short circuiting back through the center of the wheel where the propelling force is least. The Ventura Fan is placed in a position relative to the heater to allow just the proper expansion before the air enters the heater.

Venturafin Heater

The recirculating box is used with the Venturafin Unit to draw up the air from the floor and feed it to the fan, where it is forced through the heater. This affords complete circulation of air and enables the Venturafin Unit to keep a more even temperature throughout the area heated.

Further information can be had upon application to the company.

## Clark Machine Co. Makes All-Steel Drilling Machine

An all-steel drilling machine is being put out by the Clark Machine Company, Wichita Falls, Texas.

Because of the construction of this machine, the fire hazard is practically eliminated, and there is little possibility of damage to the machinery from exposure.

Superior engineering skill has located the working parts of the Clark drilling machine in the best positions for adding long life and strength.

For detailed information, write directly to Clark Machine Company, Wichita Falls, Texas.

## Crabbe Patent Plug Company Offers Practical Appliance

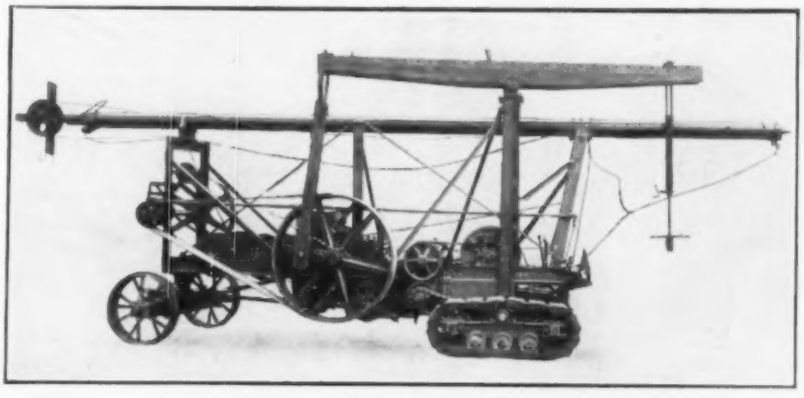
A plug said to be exceedingly practical has recently been put on the market by the Crabbe Patent Plug Company, Weston, West Virginia.

This plug is made up of rubber of great strength, a wood or iron mandril, and a cast iron head. The rubber is supported by a bottom plate, and a rod passing from the bottom plate to the mandril is held in position by a copper rivet "which readily shears when the plug is placed and hit with the tools," allowing the mandril to enter the rubber. The mandril being hollow, allows it to pass down over the tie rod.

Crabbe Patent Plug

The head is fitted with three slips, set similar to the slips of a bulldog spear, which prevent the mandril from slipping out of the rubber, and the more pressure you have, the tighter the plug will wedge.

The Crabbe Patent Plug Company, Weston, West Virginia, will send further information on request.



Clark Portable Drilling Machine

## Lubricated Plug Valve Eliminates Sticking

A new departure in plug valves has been placed on the market by the Barco Manufacturing Company of Chicago, which is claimed to incorporate all of the much sought after advantages of full direct port opening with a one-quarter turn of the handle.

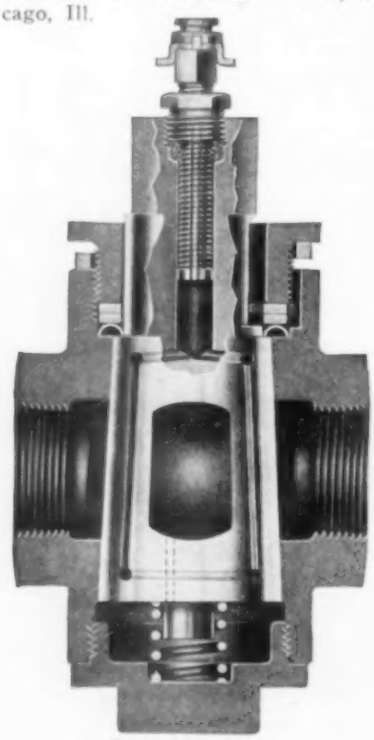
The plug is set in the body with the taper pointing to the gland so that the plug cannot blow out of the body even if the gland is removed.

In order to eliminate the sticking or wedging action heretofore encountered in plug valves, the Barco Lubricated Plug Valve is provided with a semi-spherical spring steel gasket forming contact between the plug and the body and held in place by the gland. The function of this gasket is to provide for adjusting the gland so as to relieve the wedging action of the plug in the body without pushing the plug off its seat and causing leakage. This insures an easily operated, tight valve.

In order to insure long life, the wearing parts of the valve are lubricated by a handy and efficient method of lubrication which feeds the lubricant direct to the wearing surfaces without bringing it in contact with the fluid pressure. With this design of lubrication, little attention is required, as the lubricant is not washed away but is held against the surfaces where it is required.

These valves are made for all services where metal valves may be used and of metals to suit requirements.

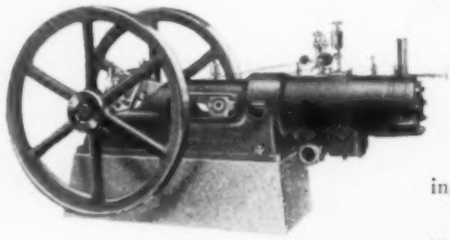
Further information will be supplied by the Barco Manufacturing Company, 1801 to 1815 Winnemac Avenue, Chicago, Ill.



Barco Plug Valve

## Titusville Power Unit Has "Built-In" Features

During the past year the Titusville Iron Works Company, Titusville, Pennsylvania, has developed a remarkable power unit, known as the Titusville Tico gas engine.



Tico Gas Engine

The engine is of strong, simple design. In developing the outfit, requirements of the oil fields have been kept in mind. Reserve strength, flexibility, accessibility, simplicity and beauty of lines are said to be "built-in" features

During sustained pulls under trying conditions, the horsepower developed has been more than 100 per cent over rated capacity, and yet the engine ran smoothly and quietly without overheating.

The engine accommodates itself to overloads and holds them, and its pick-up is instant when the load is reduced. Its great overload capacity should appeal to any operator who knows the value of sufficient power for emergency purposes.

There are no complicated parts to get out of order, nor any delicate adjustments to make. All parts of the engine are easily accessible for cleaning or repairs. Every care has been taken to avoid the crowding of parts into restricted space which, because of inaccessibility, might mean long and costly tie-ups in case repairs are necessary.

More detailed information regarding the engine will be sent upon request to the Titusville Iron Works Company, Titusville, Pennsylvania.

## Tru-Lay Rope Embodies Improved Construction

A basic improvement in wire rope construction is embodied in the new Tru-lay rope developed by the American Cable Company, New York, and now used extensively in the Mid-Continent, Eastern and Pacific oil and petroleum fields.

The principle on which the new rope is made and which distinguishes it from other wire rope is the "preforming" of the wires and strands to the exact shape they must have to fit correctly in the completed product. The rope is made in regular lays and Lang lay for use in the petroleum industry.

Characteristics of the new rope which, according to engineers concerned with its development, make it especially adaptable to the petroleum field are:

The rope can be cut and handled without seizing. Ends do not fray making rope splicing a simple matter.

The rope divides strand load equally. Load distribution on single wires is remarkably uniform.

High or drawn strands do not develop from improper seizing and socketing.

The new rope permits the use of Lang lay rope without danger of unraveling.

Straight unseized ends permit the attachment of special fittings by mechanical processes at less cost than has formerly been found possible.

The company will supply further information.

American Cable Company Tru-Lay Wire Rope

## Armstrong Brothers Offer Frameless Stillson Wrench

A frameless all steel Stillson pipe wrench is among the latest equipment offered to the oil trade by Armstrong Brothers Tool Company, 317-357 N. Francisco Ave., Chicago, Ill. Manufacturers of this wrench claim for it a number of advantages:

The weak frame or nut housing has been entirely eliminated.

Side pull strain is taken up by two solid forged steel lugs which are reinforced or tied together by the recessed nut, a construction which combines compact form with the greatest possible strength.

A patented "ball and socket" nut gives increased flexibility and great strength, especially under heavy side strain.

The novel spring action insures proper gripping position to the movable jaw and imparts sufficient tension to prevent the wrench getting out of adjustment.

An exclusive feature of the wrench is that the adjusting nut cannot fall out.

The handle does not act inside a frame and is, therefore, not restricted in size but is so designed as to be strongest at the point of greatest strain.

All parts are self-cleaning in action.

This wrench is made to handle pipe from one to five inches in diameter, and is excellent for handling oil field pipe that comes within these sizes.

Armstrong Stillson Wrench

Additional information will be supplied by the company, upon request.

Now Being Manufactured Out of Cast Chrome Vanadium Steel

Can Now Be Had in Two Sizes— Five Foot or Six Foot Length Stroke

The Fetty Long Stroke Pumping Attachment from the very start has been an outstanding success. Its performance in the field has been uniformly successful. Improvements made include Cast Chrome Vanadium Steel gears, three braces on each side of pitman flange instead of one and the two connecting rod bolts long enough to allow running nuts up to end of bolt to allow pitman gear to drop low enough to permit pulling of wells. Same practical design and sturdy construction.

R. G. Garretson,
771 Raymond Avenue,
Long Beach, California
Telephones 333-433

R. N. Atmore,
404 West First Street,
Tulsa, Oklahoma
Telephone 3-3282

Covered by United States and Foreign Patents

# FETTY

# LONG STROKE

*Say you saw it in The OIL WEEKLY*

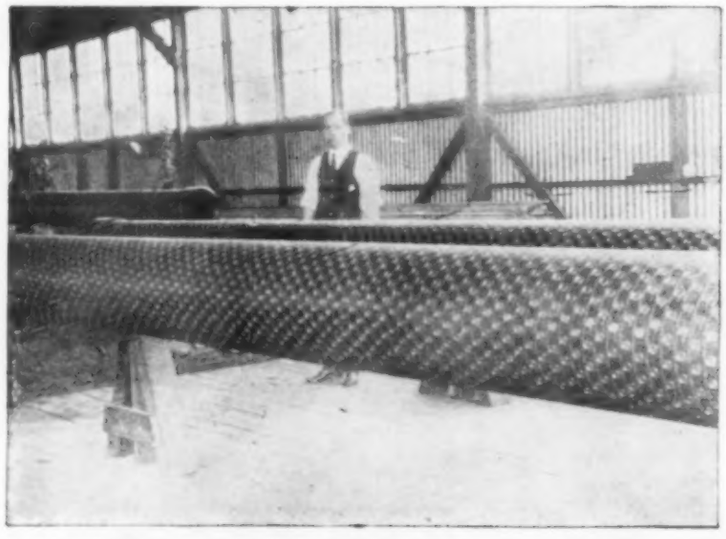
# "McEvoy Wireless" Well Strainer

*keeps the sand out of oil wells.*

*The superior performance of "McEvoy Wireless" has earned for it world-wide reputation and use.*

*We consider it of paramount importance that users of "McEvoy Wireless" Well Strainers know for sure it always gets to bottom in perfect condition just like it left the factory.*

Above is an unretouched photograph of a short length of McEvoy Wireless Well Strainer



At left is a photograph of some large diameter strainer being completed in our factory at Houston, Texas. Note the excellent workmanship on this strainer.

# "McEvoy Wireless" Well Strainer

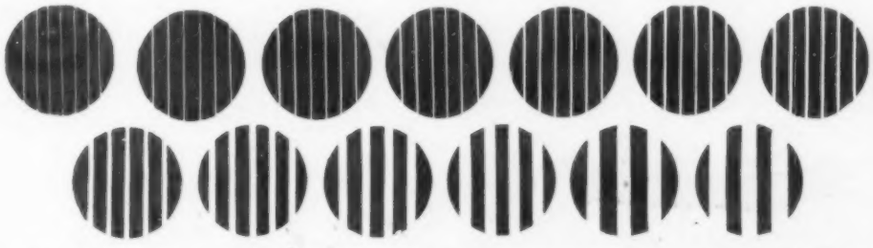
*made in flush joint as shown at right allows the use of strainer one-half inch larger in diameter than strainer with couplings.*

Upon request we will send this ring sample showing the different meshes of "McEvoy Wireless"

The wrought brass strainer plugs are forced into pipe wall down to shoulder of reamed holes under heavy pressure. They will withstand 3000 pounds pressure from inside and 5000 pounds from outside.

*Illustration of Different Makes of "McEvoy Wireless" Well Strainer*

No. 6 No. 8 No. 10 No. 12 No. 14 No. 16 No. 20



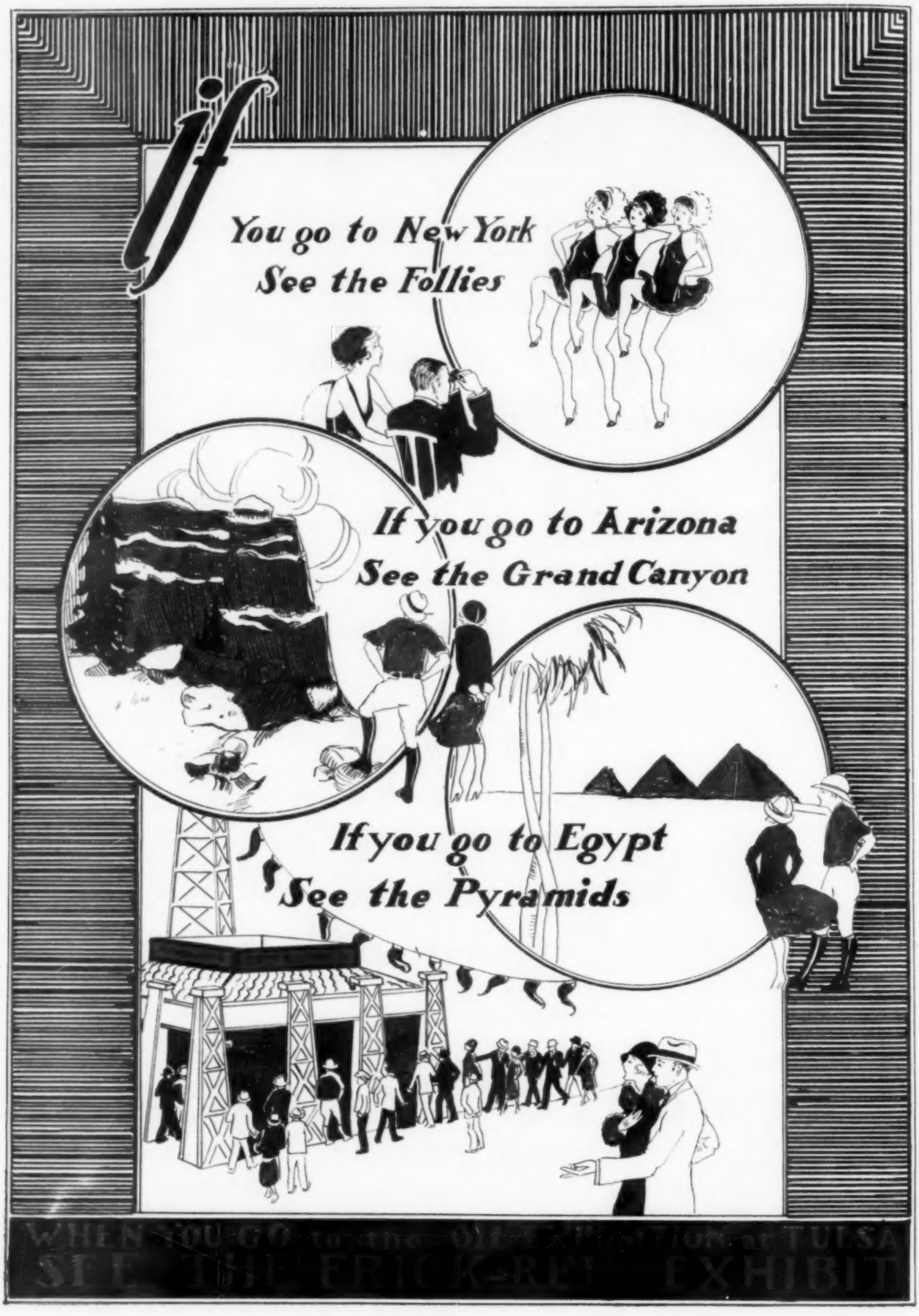
Above Are Actual Sizes—White Lines Represent Openings in Thousandths of an Inch

## J. H. McEVOY & COMPANY

**HOUSTON, TEXAS**

**LONDON**
**O. F. SUNDT, Petroleum Geologist and Engineer**
**90 Abingdon Road W 8**

**LOS ANGELES**
**McEVOY WIRELESS WELL STRAINER CORPORATION**


if
You go to New York
See the Follies
If you go to Arizona
See the Grand Canyon
If you go to Egypt
See the Pyramids
WHEN YOU GO to the OIL EXPOSITION at TULSA
SEE THE FRICK-REID EXHIBIT

*Say you saw it in The OIL WEEKLY*

Marion Machine Foundry and Supply Company All-Metal Band Wheel

## Marion Machine Improves All-Metal Band Wheel

Marion Machine, Foundry & Supply Company has recently announced an improvement in its all-metal band wheel. This improvement consists of the steel rim, welded, making a one-piece rim.

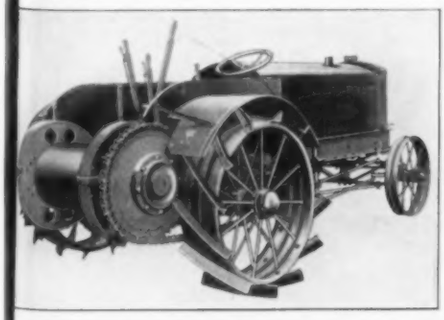
This wheel has cast iron hub and flanges. The spokes butt against permanent stops on the hub, taking practically all strain off the rivets. The arms are channel steel and are riveted to the flange. The tug rim is steel welded into one piece and pressed to shape.

More information can be had from the company upon inquiry.

## Tractor Winch Will Handle Deeper Work

In order to keep pace with production methods from deeper sands, the Rock Island Plow Company, Rock Island, Illinois, has developed its Rock Island Model 70 Tractor Winch. This winch has a capacity of 10,000 pounds pull on a single line.

Ability to take hold of the rods, pull them slowly, stop at any point and then go on, is among the essential requisites in a tractor winch. This feature is said to dominate the Rock Island Model 70. It has, according to its manufacturers, sufficient power to couple onto the rods in any oil well and pull them out without jerking or bucking the load. This eliminates the possibility of damaging the well or breaking any of the equipment.



Rock Island Plow Company Tractor Winch

After a few strings of rods are pulled, much less power is required. As the load decreases, the speed of the Rock Island can be increased until the work can be done as rapidly as practical. The outfit has a pulling speed of from 100 to 450 feet per minute.

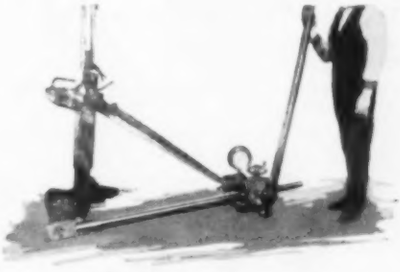
The drum is 18 inches in diameter and has a capacity to spool 140 feet of seven-eighths inch line, or to pull two joints of tubing using four lines in the derrick, without lapping the line on the drum.

Two large service brakes control the winch. They work in unison, but are independent of each other, and either will hold more than the machine can pull. The brakes have both hand and foot control.

Complete safety of the operator is assured. In operation the tractor is backed up against the well platform so that the drum and working lines on the inside of the derrick, and the operator and control mechanism are on the outside. The line which is being pulled from the crown block to the drum cannot break in any location which would permit it to whip back to the operator.

On the road the outfit has a speed of from one to ten miles per hour.

Additional information will be supplied by the company upon request.



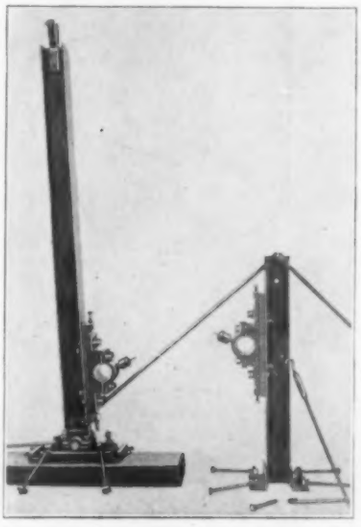
Deepwell Jack for Loosening Tool Joints

## Geared Ball Bearing Screw Jack Important in Safety

The Deep Well Engineering Company, Toledo, Ohio, has developed a new geared ball-bearing screw jack with hydraulic ram and gauge for tightening and loosening tool joints. It is claimed that the jack is much safer for men to operate than the jack and rack now used; also, that by means of the hydraulic ram and gauge, it is possible for the first time in well drilling practice to accurately know how tight joints are being set up. This means a saving in jumped pins.

Joint breakers now are used in conjunction with the Barrett jack to break or start refractory joints. This new jack performs the function both of the jack and the joint breaker, for it is a very powerful jack. The clevis in the end of the screw connects with the handle of one tool wrench and the other wrench backs into the horn and against the hydraulic ram. The joint is set up or broken by drawing the two wrench handles together.

Further information will be mailed by the company upon request.



Powers Swinglever and Tailpost Outfit

## Powers Adjustable Swinglever Finding Favor With Operators

The Powers Adjustable Swinglever and Tailpost outfit, manufactured by J. A. Cree and Company, P. O. Box 12, Wooster, Ohio, and recently introduced on the market, is finding favor among operators.

As stated by the manufacturers, the outfit has nine outstanding features:

High grade material is used throughout.

Bolts are provided with two nuts where they come in contact with rattling vibration.

There are but three points subject to wear or lost motion.

There are no parts subject to wearing out except the babbitted bearings and these are easily re-babbitted.

The swinglever hinge is of cast steel and is not easily broken.

The outfit is provided with large pressure grease cups to assure ample lubrication at all times with very little effort.

The screw adjustment enables the tool-dresser to raise or lower either end of the sand-reel himself while the driller goes on with his work, thus avoiding the usual shut-down.

When moving back to a well to clean out, the outfit is easily set up. It is also safe on old timbers.

The outfit is friction driven, thus insuring safety in operation.

More information can be secured from the company upon request.

Norris Brothers Valve

## Unusual Economy Claimed For Norris Check Valve

A valve check which, according to the guarantee of its manufacturers, effects a saving of 50 to 95 per cent over the ball and seat, has been designed and developed by Norris Brothers, Inc., of Robinson, Ill.

In place of the ball, the new arrangement makes use of what is known as a "drop." This, as the illustration shows, is a cylindrically shaped device made of non-corrosive alloy steel and ground into its seat in such a manner as to assure a perfect fit.

In addition to being scientifically designed as to shape, size and weight, the No-Co-Ro drop is drilled at the top to provide perfect balance. As a result, it is said to fall week after week without rattle, clatter or flutter. Unlike the ball, the seating surface of the drop is not exposed to the corrosive elements —one reason for its longevity.

The annual pulling expense of a certain well which, with a ball and seat, was in the neighborhood of $575, was reduced by means of a No-Co-Ro drop and seat to $28. Further details may be had on application to Norris Brothers, Robinson, Illinois.

## Distribution Transformer Adapted for Field Work

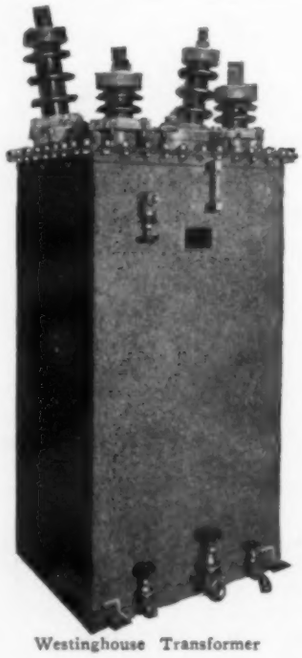
Westinghouse Electric & Manufacturing Company, Sharon, Pennsylvania, announces a new type distribution transformer adaptable for oil field installations.

Type SC transformers are for single-phase service, platform mounting. The general field of service is for high distribution voltage, such as 34,500 and 44,000 volts. These transformers are especially suitable for small isolated outside substations feeding from high-tension lines. A large number are operating successfully in locations where they are constantly exposed to all conditions of weather.

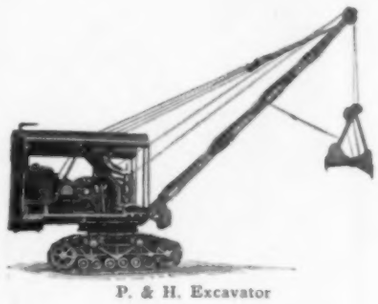
The cruciform-core construction has circular concentric coils assembled with a core of cruciform cross-section. The punchings are clamped top and bottom by angle or channel irons. The tanks are made of sheet metal welded along the seams, and the tank covers are made of boiler iron. This construction combines maximum strength with minimum weight. The sheet metal tanks are rendered thoroughly weatherproof by the application of three coats of special paint to the tank surfaces. The primary coatings, which consist of two coats of priming paint, are air dried, after which a finishing coat of heavy oil paint is applied, and air dried. This gives the case a smooth and pleasing finish, and renders it impervious to the action of the elements.

The transformers are mounted in sheet metal tanks and are suspended from a boiler iron cover on which the bushings are mounted. This permits the transformer, intact with cover and bushings, to be removed from the tank by means of lifting lugs, provided on the cover. These tanks have a large radiating surface for a given floor space.

Further information can be obtained from the company on request.



Westinghouse Transformer



P. & H. Excavator

## New Type Excavator Is Suitable for Fields

To meet the demand for a lightweight, sturdy, fast, durable and powerful excavator, the Harnischfeger Corporation, Milwaukee, Wisconsin, has recently announced its new ½-yard, full revolving, gasoline or electric machine, mounted on Corduroy traction, known as Model 204.

Power for the machine is supplied by a single gasoline motor, of the heavy duty tractor type, developing 40 horsepower at 960 r. p. m. All power is transmitted through cut steel gears with the minimum number of reductions.

The two main drums are independently mounted on separate shafts, and are controlled by outside band clutches and brakes, the clutches being operated by power clutch control. The drums have a standard line speed of 110 feet per minute, but may be lagged to give higher speeds for certain work.

Both the revolving frame and car body are of cast steel, in one piece.

All shafts are ground to micrometer size and all bearings are provided with Alemite or pressure cup lubrication.

The Corduroy frames are heavy steel castings which receive the weight of the machine from two heavy forged axles. The treads are non-cloggable, and the tread rollers are swiveled in two directions to adjust to any irregularities of the ground.

All gears are well guarded to protect the operator, and the first reduction and travel gears are fully enclosed, running in oil.

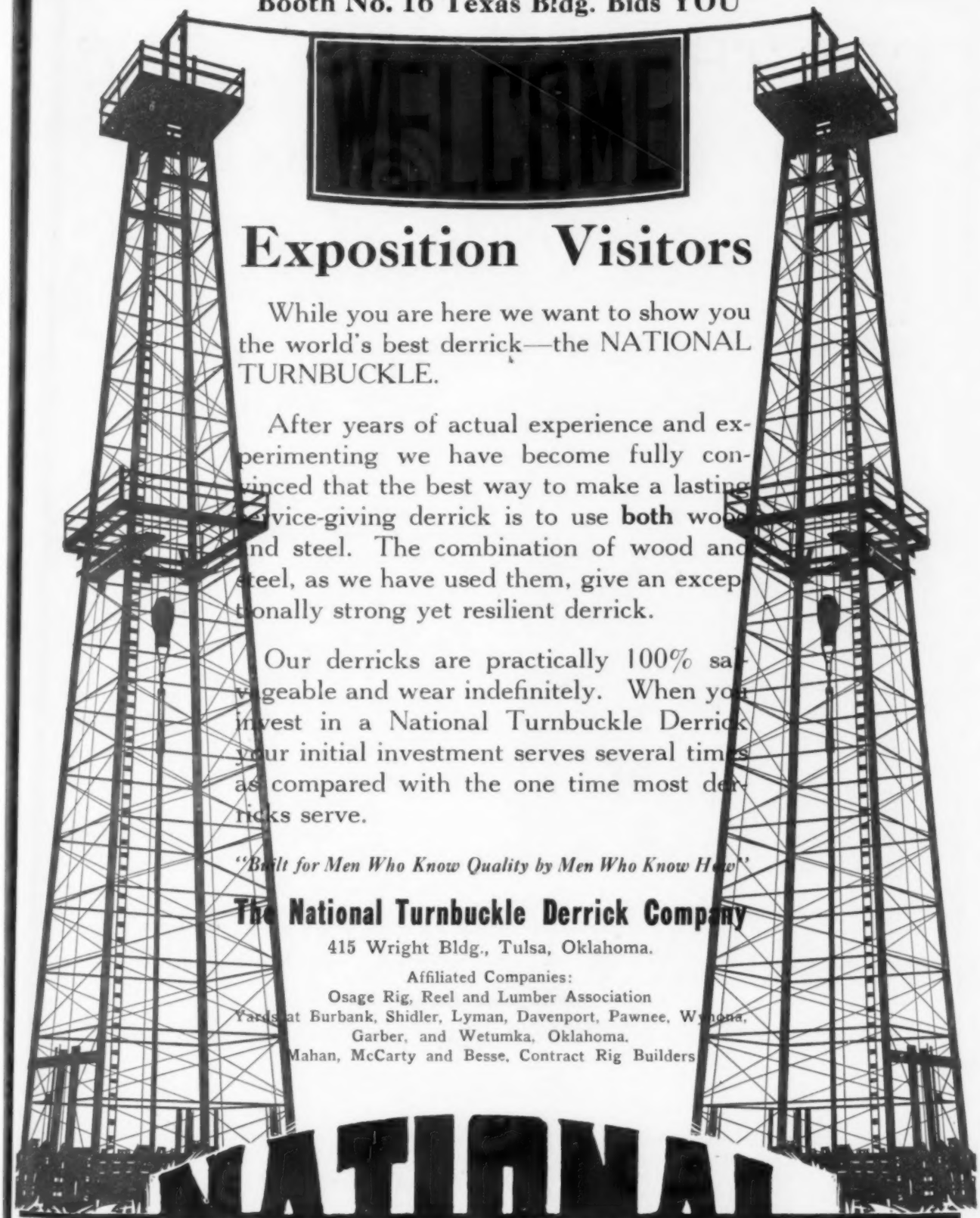
There are two travel speeds, 11/16 and 1⅜ miles per hour, forward and reverse.

All steering is controlled from the operator's platform by use of a simple hand wheel. The main machinery and operator's platform by use of a simple in an all-steel cab provided with suitable doors and windows for care and operation.

The machine handles a ½-yard dragline or clamshell bucket on a 35-foot boom, and has a rated lifting capacity of 13,000 pounds at 10 feet radius, which is 75 per cent of its tipping capacity.

Literature and further information can be secured from the Harnischfeger Corporation, Milwaukee, Wisconsin.

**Booth No. 16 Texas Bldg. Bids YOU**




# Exposition Visitors

While you are here we want to show you the world's best derrick—the NATIONAL TURNBUCKLE.

After years of actual experience and experimenting we have become fully convinced that the best way to make a lasting service-giving derrick is to use **both** wood and steel. The combination of wood and steel, as we have used them, give an exceptionally strong yet resilient derrick.

Our derricks are practically 100% salvageable and wear indefinitely. When you invest in a National Turnbuckle Derrick your initial investment serves several times as compared with the one time most derricks serve.

*"Built for Men Who Know Quality by Men Who Know How"*

**The National Turnbuckle Derrick Company**

415 Wright Bldg., Tulsa, Oklahoma.

Affiliated Companies:
Osage Rig, Reel and Lumber Association
Yards at Burbank, Shidler, Lyman, Davenport, Pawnee, Wynona, Garber, and Wetumka, Oklahoma.
Mahan, McCarty and Besse, Contract Rig Builders

NATIONAL
TURNBUCKLE DERRICKS
NATIONAL

*Say you saw it in The OIL WEEKLY*

# GET THAT PIPE and CASING

## OUT OF ABANDONED HOLES

### LET US TELL YOU ABOUT OUR HYDRAULIC CASING PULLING MACHINE

### No Derrick, Boiler or Lines Are Needed

We are saving thousands of dollars for such companies as The Texas Co., Gulf Production Co., Standard Oil Co. of Louisiana, Pure Oil Co., Humble Oil & Refining Co., Lone Star Gas Co., and many others.

The principal features of our pulling machine are high power developed from an ordinary truck engine, steady application of that power at the right place, and breaking out device, which enables us to pull casing that has been in the hole for years.

Get in touch with us or with our nearest representative for full information.

# THE THRIFT CORPORATION

**613 Union National Bank Building**

HOUSTON, - - - - TEXAS

**Licensed Operators:**

J. N. Paxton, Houston, Texas
613 Union Nat'l Bank Building

Arnold & Watts, San Antonio, Texas, 224 Peck Ave.

Hydraulic Casing Pulling Co., Mexia, Texas

Northwest Casing Pullers, Burkburnett, Texas

Jensen & Speed Bros., Burkburnett, Texas

L. A. Pruitt, Duncan, Okla.
E. T. Harmon, Duncan, Okla.

C. L. Sheedy, Bartlesville, Okla.

Fawcett & Newman, Shreveport, La. Am. Bank Bldg.

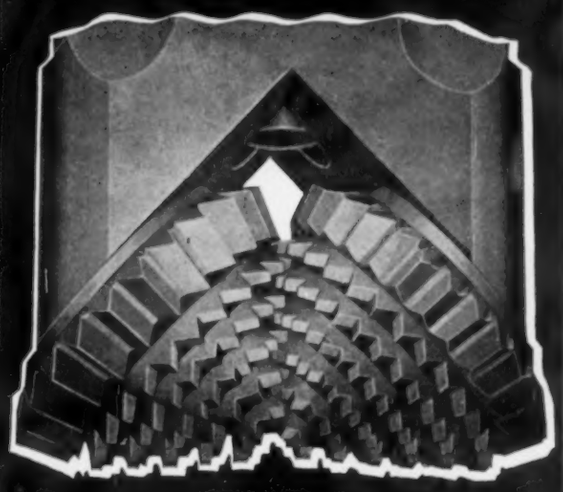
G. H. Neighbors, El Dorado, Ark.

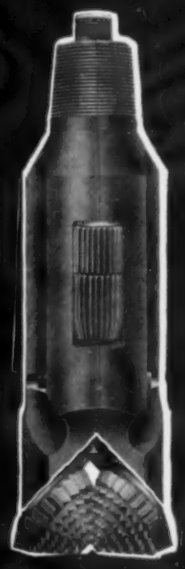
W. W. Crosby, Los Angeles, Calif. 246 I. W. Hellman Bldg.

C. H. Elstner, Tampico, Mexico

*Say you saw it in The OIL WEEKLY*

# HUGHES SELF-CLEANING CONES



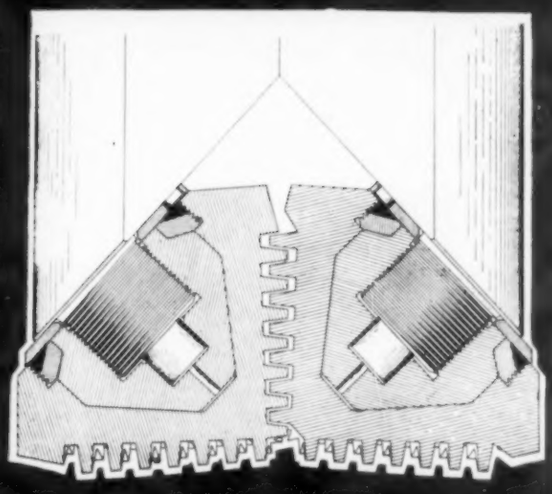


The Hughes Self-Cleaning Cone is a new type cone especially designed for the purpose of cutting medium hard and medium hard sticky formations. While not designed to supplant the regular Hughes type of hard rock cone, it has established performance records in the rotary fields of Texas, Oklahoma, Arkansas, and Mexico, where formations encountered are chalk, anhydrite, sticky lime, and hard sticky shale.

The Self-Cleaning Cone cannot compete with the Hughes Hard Rock Cone in such formations as basalt, granite, flint and conglomerate, but is capable of handling hard shells encountered between the softer strata.

The teeth of the Hughes Self-Cleaning Cone are so designed that they clean each other of sticky formation while rotating. The teeth on each cone are formed in concentric circles and so spaced that they intermesh. As the cones rotate the teeth pass each other, cleaning out all material packed into them.

Hughes Self-Cleaning Cones can be used on the regular Hughes Simplex Rock Bit, making it necessary to have only one bit head on a drilling well where the formations are such that both the regular and new type cones are required.



*At Your Supply Store*

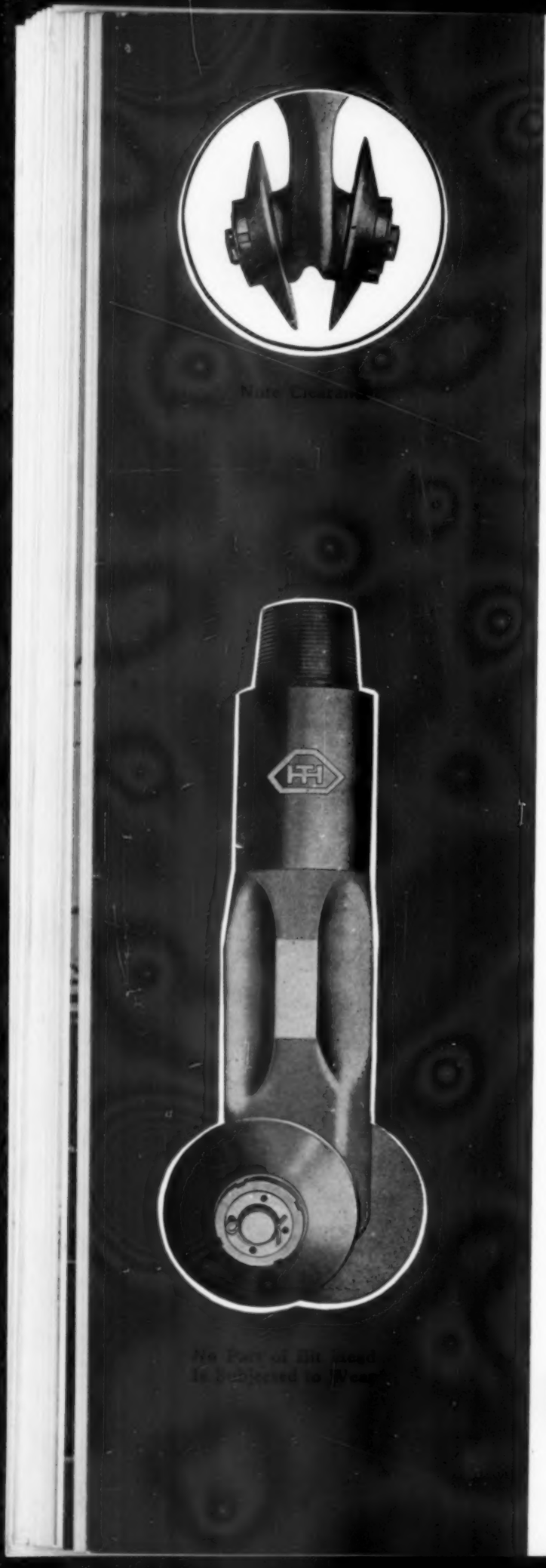
## HUGHES TOOL COMPANY

MAIN OFFICE AND PLANT

Branch Plants
Los Angeles, Calif.
Oklahoma City, Okla.

**HOUSTON, TEXAS**

Export Office
New York City
N. Y.



# The HUGHES DISC BIT

The four features that make the Hughes Disc Bit a leader are:

1—It drills sandy shale, soft rock and medium hard formations several times faster than a fishtail bit.

2—It is designed for unusual strength and ruggedness and therefore withstands the most severe usage.

3—It will not ball up in sticky formations.

4—It practically eliminates necessity of after-reaming, as the bit cuts a full gauge hole.

The water course is located directly between the discs and feeds the full force of the slush to the bottom of the hole.

The bit head is made of chrome nickel steel, heat treated to give greatest strength.

Cutters can be changed on the derrick floor in very short time.

No part of the bit head is subjected to wear.

*At Your Supply Store*

## HUGHES TOOL COMPANY

MAIN OFFICE AND PLANT

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Los Angeles, Calif.
Oklahoma City, Okla.

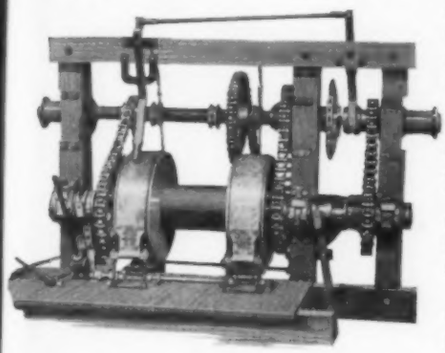
**HOUSTON, TEXAS**

Export Office
New York City
N. Y.

## Ideal Rotary Draw Works Designed for Deep Holes

The "Ideal" No. 5-C3 rotary draw works, recently put on the market by the National Supply Companies, Toledo, Ohio, has been designed to meet the demand for a draw works equipped with brakes that will stand up under the heavy loads and high speeds required in drilling deep wells.

This machine has three speeds. All



National Supply Company Draw Works

speeds have their clutch engagement on the drum shaft and can be progressively engaged without any slowing up of the line shaft speed. All speeds use 1240 chain capacity.

The line shaft revolves at 111 revolutions per minute at engine speed of 250 revolutions per minute. The drum shaft speeds are 35.8, 63.5, and 138.8 revolutions per minute. Light loads may be quickly hoisted by means of the third speed.

The line shaft is 5⅞ inches in diameter by 13 feet 7¼ inches. It is made heavy to withstand high speeds without excessive vibration. The keys which hold the cat heads in place are covered with key protectors. A line shaft clutch operated in conjunction with the drive rotary sprocket, allows the rotary machine to be disengaged while using the draw works alone. A lever is provided for hand operation of this clutch.

The brake lagging is 12 inches wide and of the highest quality. It polishes the cast iron brake rims and forms durable friction surfaces. The wide brake rims, 42 inches in diameter, afford large radiating area to throw off the heat generated. The brakes are prevented from dragging by means of adjustable suspension cables which are fastened to the headboard and anchored beneath the drum. When one end of a brake lining becomes worn the band may be easily unbolted from the clevises and turned end for end so that the lining will present a new wearing surface where needed.

The Ideal O. & H. brake equalizer is designed to function as close as possible to the point where the power is applied by the operator. It is constructed of steel throughout. The brake lever is a one-piece solid steel forging.

The cast steel drum is 18 inches in diameter by 28½ inches and is heavily ribbed. It is flanged on the ends so that there can be no spreading due to the wedging action of the wire line. This large drum does not need to travel as fast as one of smaller diameter to attain the customary rope speed, therefore safer brake rim speed is assured.

The minimum distance between the line shaft engine sprocket and the drum is 14 inches, permitting large drum capacity for the wire line. The entire drum shaft assembly is of rigid construction. The shaft is 5⅞ inches in diameter by 12 feet ¼ inch long. All drum shaft sprockets are free on the shaft so that they need not turn when running into the hole. All drum shaft clutches are operated by foot pedals. The split thrust collar on the right end of the drum shaft is recessed into the shaft to prevent any possibility of slipping.

Further information may be had upon application to the National Supply Companies, Toledo, Ohio.

## Ideal Universal Rotary Designed for Heavy Duty

To meet the demand for a rotary that will stand up on all kinds of jobs, the National Supply Companies are introducing their "Ideal" 20-inch by 24-inch universal rotary drilling machine, said to be different from all previous types of "Ideal" rotaries.

The base is steel throughout. The gear table half is constructed with four massive brackets which support the spider when lowered into position for screwing or unscrewing drill pipe or casing. The spider supporting brackets form the recesses which permit bits up to 24 inches to be freely passed through when the spider is removed.

The gear table is a sturdily constructed steel casting having its teeth protected from the mud fluid by a special fluid slinger around its outer edge. It is supported by the gear table ball bearing and is securely held in place by a specially constructed hold-down ring which completely surrounds the gear table, protecting the table bearing from mud and water and forming a guard for the pinion. In this hold-down ring is incorporated a special patented feature which eliminates any possible weave to the rotary table. The upper part of the table is bored larger than the lower part and contains brackets which form pockets to support the spider when drilling.

The spider is a heavily constructed steel ring which has a finished opening of 20 inches in diameter. The bevel pinion is made of a special grade of gear steel, pressed and keyed on the shaft.

The pinion shaft is of special steel and of extra large diameter, ground accurately to size within the closest limits to insure accurate fits in bearings, pinions, and other parts.

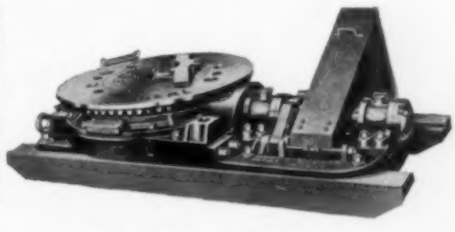
The pinion shaft bearings, Hyatt heavy duty type, are rigidly mounted in cast steel bearing housings. The bearing housings are provided with adjustments to correctly align the pinion with the table gear. Hardened and ground thrust washers are provided between the pinion and the main bearing to eliminate any possible wear due to end thrust and insure accurate alignment of the pinion at all times. Lubrication is by means of pressure grease gun furnished with every machine.

The sprocket has ample adjustment on the pinion shaft to permit lining this machine up with any draw works. The pinion shaft lock and pawls are located directly behind the main bearing which brings this shaft-locking mechanism well out of the way of the operator and in the most convenient position for operation.

The operation of changing the machine from the regular drilling position to the make-up or break-out position is quickly and easily accomplished by means of a special elevating tool. The hooks of this tool engage the lugs cast in the top surface of the spider. The drill pipe is then raised about three inches which in turn lifts the spider raising the supporting lugs out of the pockets of the gear table. The gear table is then given a quarter turn by hand and the spider lowered until its lower lugs rest on the brackets at the bottom of the base. The special elevating tool is then removed. The table is again turned by hand about a quarter turn until the lower lugs of the spider drop into the pockets in the brackets at the bottom of the base. The gear table is now free to turn while the spider, table bushings and slip are securely locked in a stationary position permitting the making-up or breaking-out of the pipe which is accomplished by means of tongs and posts which are fitted into the holes provided in the gear table.

To resume drilling the gear table is turned by hand about an eighth turn until the register grooves appearing on the top of the table come in line or register with similar grooves appearing on top of the spider. The spider is then hoisted up and the table given a quarter turn, allowing the lugs on the spider to enter the pockets provided in the gear table. Drilling is then resumed as in any ordinary rotary.

The National Supply Companies, Toledo, Ohio, will furnish other information on request.

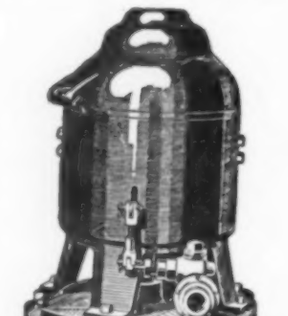


National Supply Rotary

## Frost Vertical Steam Turbine Generator Has Been Improved

Several important improvements have recently been made in the Frost vertical steam turbine generator, which is being used extensively in the oil fields for rig lighting, boiler stations, etc.

The governor valve valve which heretofore was of bronze is now made of Monel metal. This gives the user



Frost Vertical Generator

the advantage of a valve that will outwear the bronze valve three times.

The governor valve valve spring, which was heretofore a tempered steel spring, is now a Monel metal spring. The advantage gained by using a Monel metal spring to operate the governor valve valve is that the same will stand 100 per cent more heat than a regular steel spring. It is said that this metal will stand the most severe heat from steam that the oil country will be subject to without setting.

Monel metal flange screws are now used on the governor valve flange instead of ordinary steel screws which were used heretofore. Monel metal will not rust, therefore the operator will have very little trouble in taking off his governor valve flange in order to put a new governor valve strainer in the same.

Additional information about the generator will be supplied by the Becker Specialty Company, 623 South Cheyenne Avenue, Tulsa, Oklahoma.

## Atlas Cement Especially Adapted to Oil Field

A cement with qualities especially adapted to oil field needs is being marketed by the Atlas Lumnite Cement Company, 25 Broadway, New York City, New York.

Atlas Lumnite cement is a hydraulic cement. It develops maximum strength within a very short time, and is said to have greater strength at 24 hours than ordinary cement will have in 28 days.

Tests indicate that the compressive strength of this cement in 12 hours is 35 per cent greater than ordinary cement at 10 days. This early hardening means the successful exclusion of waters and gases, preventing loss of production or possible failure of the well. Drilling may be resumed within a day after cementing a well.

The usual time is required for mixing, transporting and pouring this cement before it sets, but after setting, its high early strength develops with great rapidity.

Additional information can be secured by writing the company.

## New Oil Field Reversible Clutch Pulley Is Offered

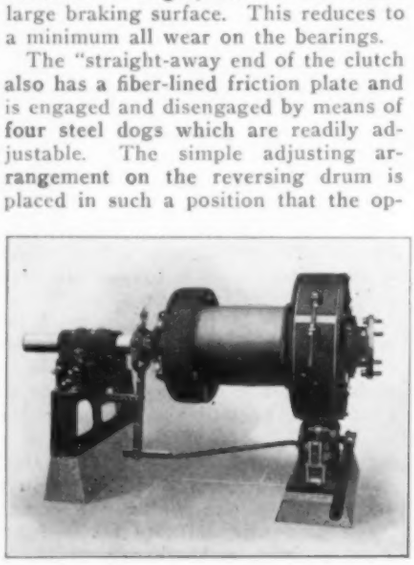
A new special oil field reversible clutch pulley, manufactured by the Power Manufacturing Company, Marion, Ohio, is annonced to the oil trade.

Suitable drains are provided so that any oil which may leak out through the bearings may run back into the drum. This prevents the clutch from throwing oil under any circumstances. The gears and pinions are of the spur type, machine cut, and of tempered steel, and are practically noiseless in operation. Further, because spur gears are used, there is positively no end thrust in either direction, and as stated above, because the whole mechanism operates in a bath of oil, all wear is practically eliminated.

All bearings are bushed with high-grade bronze and are of dimensions suitable for twice the load which they will ever be required to carry—this makes for very long life.

The reversing brake is exceptionally wide, as will be noted from the illustration; the diameter of the drum is very large, as also is the shaft, and the face of the brake is covered with high-grade brake lining, so that the strain on the drum when the mechanism is reversed is slight, due to the extra large braking surface. This reduces to a minimum all wear on the bearings.

The "straight-away end of the clutch also has a fiber-lined friction plate and is engaged and disengaged by means of four steel dogs which are readily adjustable. The simple adjusting arrangement on the reversing drum is placed in such a position that the operator can make any adjustments that may be necessary on the clutch without going around to the belt side of the pulley, thus eliminating the danger of being caught in the belt.

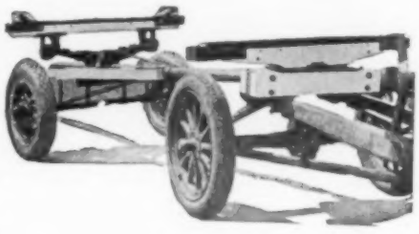


"Primm" Reversible Clutch Pulley

The "Primm" special oil field clutch is intended for the roughest usage and heaviest work and for such purposes will give maximum service.

For ordinary commercial purposes, where such tremendous strength does not appear to be so necessary, a lighter clutch is made of the very finest materials, and will serve the purpose for which designed, under all ordinary conditions.

More details will be supplied by the company.



Nabors Trailer

## Spring Trailer Is New Development for Nabors

With the addition of the Nabors Spring Trailer, a recent development in its line of trailers, practically every conceivable field of usefulness in hauling is covered by the W. C. Nabors Company, Mansfield, Louisiana.

This new trailer is especially well adapted to oil field hauling. It embodies a new spring suspension, fully protected by patent application, that entirely eliminates all zig-zag action on the road and includes all fundamental principles of design that make it a superior trailer.

The entire Nabors Spring Trailer is identical with the non-spring trailer with the exception of the spring assembly unit, hence all wheels, bearings and other parts are interchangeable on all Nabors trailers.

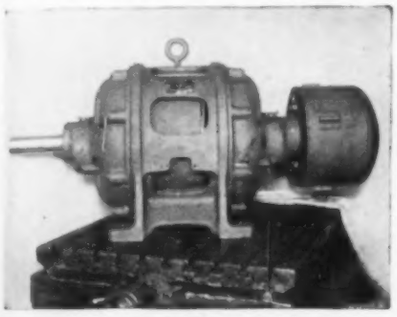
The spring saddle fits over the lower riser and supports the entire weight of the spring and cap piece. Shackle bolts are case-hardened and ground and are brass bushed. All points of friction are fitted with grease cups. The spring is of high-grade material. The spring suspension is foolproof in that should it be overloaded or compressed under a stress or sudden jolt, the load will rest on a striker plate on the rear assembly, thus preventing any possibility of the load coming down on the wheels.

Capacity of the spring trailer is 5000 pounds. Weight complete is approximately 950 pounds.

Additional information can be obtained from the W. C. Nabors Company, Mansfield, Louisiana.

## Westinghouse Two-Speed Motors in Larger Sizes

Pumping service conditions are often encountered due to salt water and extremely deep wells where standard 15-35 horsepower pumping motors do not have thermal capacity for continuous operation. This has resulted in the development of larger two speed motors of 20-50 and 25-65 horsepower capacities and corresponding controllers. Similarly, to meet shallow well pumping demands, a 10-25 horsepower two speed motor and complete controller has been developed.



Westinghouse Oil Well Motor with cover over brushes to totally enclose sparking for gaseous wells

There are gaseous fields where protected equipment must be employed in drilling, and in some instances protected motors and controllers are desired on pumping wells. This, together with the fact that many two speed pumping motors may be used as a twin motor cable tool drilling equipment, resulted in developing enclosed parts for slip rings of the entire line of pumping motors. On protected equipment, motor slip rings are enclosed in steel housings on the end of the shaft, designed to meet Bureau of Mines specifications for explosion proof apparatus.

Controllers for protected pumping motors have been made with arcing contacts oil immersed, including drum cam contactor type, pole changing switch and circuit breaker, the only parts presenting fire hazard through sparking.

Other protected equipment includes the 100 horsepower single speed motor and controller for rotary drilling rigs, and the 75 and 25 horsepower single speed motors employed on the Hild differential drive for drilling.

More information on any of this equipment can be secured from Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.

Boss Portable Bull Wheel

## Elevator Designed For Special Tool Joints

In order to successfully use special tool joints which have recently been placed on the market, the U. S. Machine Shop, 501 East Cleveland Avenue, Electra, Texas, has designed a special elevator.

In this elevator the weight of the pipe is carried by two opposite dogs embedded on the inside of the elevators on a heavy hinge in the middle of two stiff springs at the bottom. These springs have a tendency to hold the bottom out and the top in, and as soon as the bottom touches the tool joints while going up the string, the same is forced back. This forces the top out and it is forced to catch the top of the offset in the tool joints.

These dogs are made of alloy nickel chrome steel, tempered to stand the necessary abuse of oil field work.

The latch has about five and three-fourths by one inch deep throat.

Bails on this elevator are two inches in diameter and are 42 inches long, bent in a peculiar way to suit the peculiarities of this type elevator.

Bushings are inserted in the top of elevators when an ordinary collar is to be picked up.

More complete information may be secured by writing the company.

## Boss Portable Bull Wheel For Wells Without Derrick

The Boss Portable Bull Wheel, manufactured by The Boss Manufacturing & Supply Company, Van Buren, Indiana, was designed for use on a derrick where all equipment except the pumping jack has been removed. The outfit is portable.

The wheels are of clutch design and have large ball bearings at each end.

The brake band on the bull wheels is eight inches wide and is operated by eccentrics which clamp it to the wheel. The diameter of the brake drum is 42 inches, and the spooling drum is 30 inches long and 10 inches in diameter. Weight of the wheels with trucks is 3000 pounds.

To place these wheels in the derrick, the truck is backed up against the derrick floor, and by means of the crank on the gin pole one man places them in position. At the top of the frame are two bolts with handled nuts. There are used to bolt the top of the frame to the girt on the derrick and can be tightened or loosened very quickly without the use of a wrench. A line is fastened to the bottom of one derrick leg and passed over the top of the frame, through grooved castings and down to the bottom of the opposite derrick leg, and then drawn tight by means of a turnbuckle. On each side of the frame an eye-bolt is put through the floor and sill of the derrick and from each of these bolts a turnbuckle extends up to the hooks on the side of the frame. The two corners of the frame extending toward the well have hooks, to which a chain can be fastened and passed around the casing-head. This fastens the wheels rigidly and allows the sprocket chain from the tractor to run loosely.

Operation of the wheel is as follows: When pulling rods or tubing, or after they are pulled, the clutch is thrown out. This allows the wheels to rotate backward and the rods or tubing block is lowered to the floor. When lowering the rods or tubing into the well, the same operation is performed. The rods or tubing are raised, the clutch is thrown out, and they are then lowered by means of the brake. The tractor does not move in either operation.

Additional information will be supplied by the company.

## Petrol Belting Constructed Particularly for Field Use

Victor Balata and Textile Belting Company, Easton, Pennsylvania, recommends its Petrol belting for oil field use.

The manufacturers claim that the principle of construction in Petrol is such as to give the belt enormous strength so as to eliminate objectionable and excessive stretch features, also a belt that will not bootleg, will hod the fasteners, run straight and true on the pulleys and transmit the maximum of horsepower.

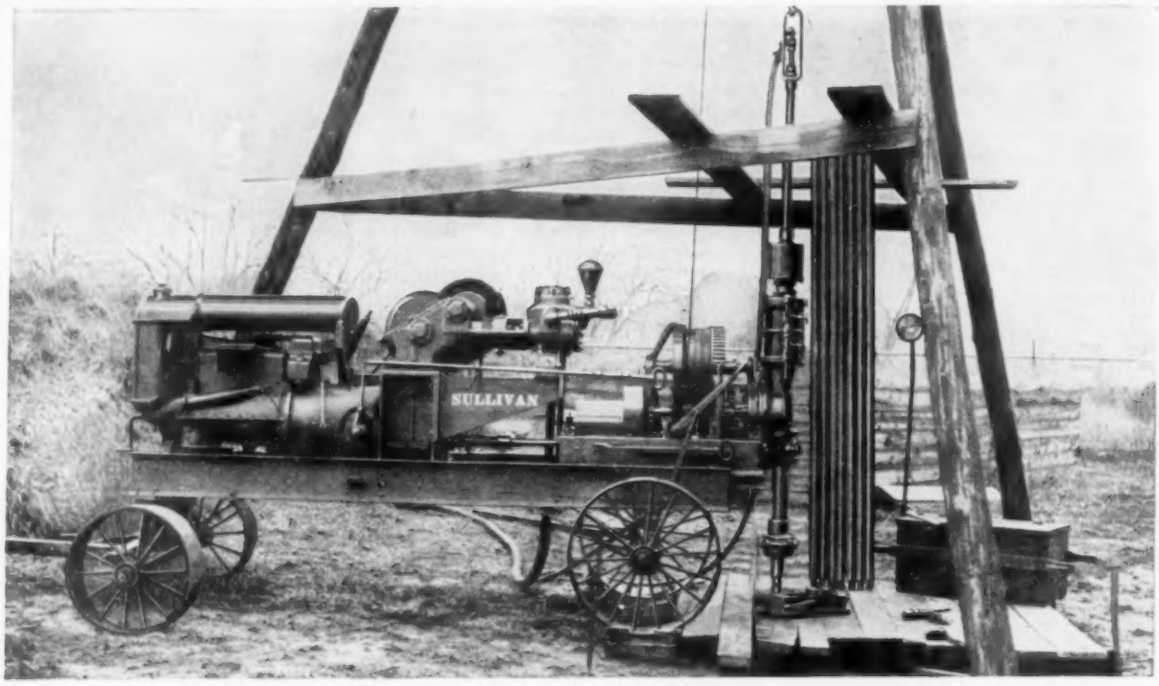
The duck which forms the foundation of this belting is specially constructed and weighs over 42 ounces to the yard.

The belting is of plied construction; that is, in an eight-ply belt, 12 inches wide, there would be eight layers of this extra heavy duck. Each layer is united with the other one, and the whole eight again joined together, making a solid belt possessing great strength.

Petrol Belting

To its innermost parts Petrol is impregnated with a special adhesive oil and acid resisting compound so that the belt will not deteriorate, but will be waterproof and also heat resisting. On the outside, Petrol is treated with a special black protective treatment which makes it further heat resisting and moisture proof and gives the belt a tendency to grip the pulleys.

Further particulars can be secured frrom the manufacturers, or from any branch of the Williamsport Wire Rope Company.




# Depend on Core Drill Geology

Within the past two years, core drilling geology has been responsible for the development of the following pools in the Mid-Continent Field.

ALCORN, OKLAHOMA
TONKAWA, OKLAHOMA
WINFIELD, KANSAS
LAGRANDE, KANSAS
RAINBOW BEND, KANSAS
OSTOT, OKLAHOMA
BLACKWELL, OKLAHOMA
BRAMAN, OKLAHOMA
HUBBARD, OKLAHOMA
RICHLAND, TEXAS
THOMAS (ELKHORN), OKLA.
WILCOX, OKLAHOMA
CUSHING, OKLAHOMA
MERVINE (NEWKIRK), OKLA.

By drilling with Diamond Core Drills, geologists have been able to outline and define structures in each of these new fields, and to indicate with exactness where "discovery wells" should be drilled. It is an interesting fact that the companies which have made the most progress during the past two or three years, are those which have depended upon Diamond Drills to find structure.

Sullivan Diamond Drills are the practical man's method of identifying mineral formations. They have been the dependence of the mining engineer for over fifty years. They are built in convenient capacities, and models, for the various demands of the oil field.

## AT TULSA
## Oct. 1-12

See the Sullivan Mounted Core Drill, the Sullivan Portable Air Compressor, the Turbinair Hoist, and the collection of core specimens taken by the Sullivan Diamond Drills. The Sullivan Booth is in space "L", outdoors. YOU ARE WELCOME.

In charge of
George E. Failing,
State Agent for
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DIAMOND DRILL CORES FROM PRODUCING POOLS IN OKLAHOMA AND TEXAS

SULLIVAN
TRADE MARK
MACHINERY COMPANY
122 So. Michigan Ave. Chicago.

## Several New Features in Gray Hooser Fishing Tool

The Gray Hooser Fishing Tool, manufactured and marketed by the Gray Tool Company, 6120 Harrisburg Boulevard, Houston, Texas, is one of the most interesting products added to the list of Gray tools during the past year.

Gray Hoosier Fishing Tool

This product, since being marketed recently, has been especially valued for its time-saving feature, its accuracy in doing the job, and its durability. The main advantage of the Hooser tool is its strength that keeps the tool from straightening out under a severe strain. It is designed to overcome and eliminate the weaknesses of the well hooks as well as the features lacking in tools manufactured heretofore in doing co-operative work with the well hooks.

With the coming of the Gray Hooser Fishing Tool, the necessity of making wall hooks from 4 to 60 feet in length is done away with, since the Hooser tool can be increased to any length desired by simply adding a 3-inch pipe. By adding the 3-inch pipe any additional length to make it reach 1000 feet alongside the fish, if desired, is made possible Prior to the use of the Hooser fishing tool of the Gray Tool Company it was necessary to make the order to be able to reach down alongside of the fish as far as necessary to catch the desired hold.

The length of the Hooser tool is 3 feet, with the weight ranging from 130 to 177 pounds, according to the size desired for the fishing job. The 130-pound tool is designed to catch the 4-inch drill pipe, and the 177-pound tool is designed to catch the 6-inch drill pipe.

In fishing with the Hooser tool, the tool should not be lowered further below the top of the fish than the length of the 3-inch drill stem on the bottom of the drill stem, since, provided the bottom end of a larger drill pipe than a 3-inch passed below the top of the fish, the two will not re-enter the casing.

The Hooser tool is stronger than the fish or fishing string, and made of such material that it will not straighten out. It pulls straight, and avoids any possible kinks being made in the fish.

## Yale Chain Block Are Adaptable To Field Use

Yale Ball-Bearing Spur-Geared Chain Blocks are recommended by their manufacturers, The Yale & Towne Manufacturing Company, Stamford, Connecticut, as having the highest efficiency, as well as maximum safety factors. These chain blocks are adaptable to oil field use.

A number of special features characterize these blocks:

The ball bearings in the Yale Spur-Geared Blocks are completely enclosed and are protected from dirt and grit by felt and steel washers. These washers also serve the purpose of retaining the lubrication.

A thorough lubrication system is provided. Oil ducts pass through the solid frames, conducting oil direct to the ball bearings, and then on to the driving pinion shaft bearings.

Yale Ball-Bearing Block

The one piece driving pinion shaft is heat-treated and ground to size. These processes insure a tough and smooth shaft.

The hollow load sheave shaft is bronze bushed to support the driving pinion shaft, and suitable oil passages provided for complete lubrication.

The pinion cage which contains the steel gear and pinions is made of tough malleable insuring against the possibility of breakage under shock conditions.

The continuous and adjustable hand chain guide positively prevents fouling of the hand chain.

The steel load chain is die-formed and electrically welded, giving an accurately pitched, smoothly finished link. The chain is heat-treated to toughen and lengthen its life. This insures uniform strength throughout.

The detachable shackle and heat-treated oval pin which connects the hook to the last link in the steel load chain make it possible to lengthen or shorten this chain in the field without hand-welding.

All parts of the blocks are carefully inspected with limit gauges and are interchangeable.

The efficient planetary gear system provides the power and maintains the original efficiency in Yale blocks even after many years of service.

Every block is rated on the long ton basis, 2240 pounds to the ton. Each block is tested before leaving the factory to assure ample reserve capacity for safety in emergency.

More complete information can be secured from the company.

## Ratigan Beam Adjuster, Rod Rotator and Shock Absorber

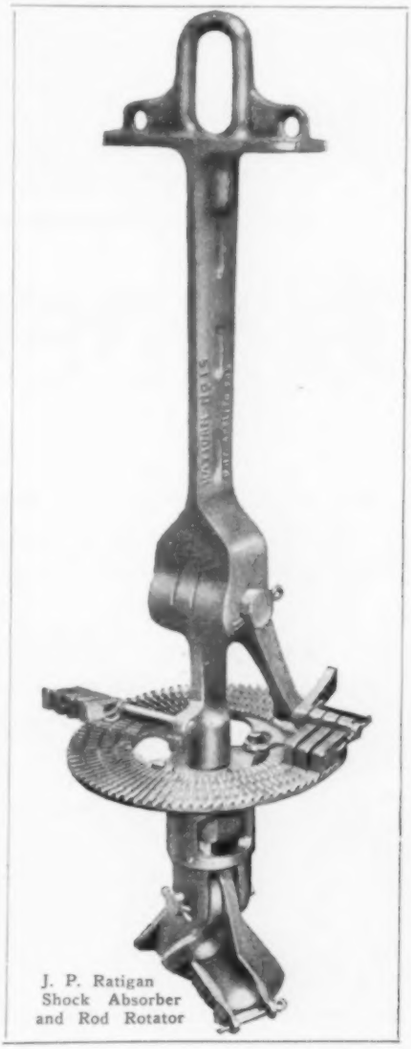
The Ratigan beam adjuster and rod rotator with shock absorber attached, is finding a wide market in the Mid-Continent fields and other localities where it has been introduced.

The purpose of the shock absorber is to take the shock of the pick-up load before it is relayed to the pumping equipment, thereby relieving the equipment of the strain acknowledged to be a cause of break-downs.

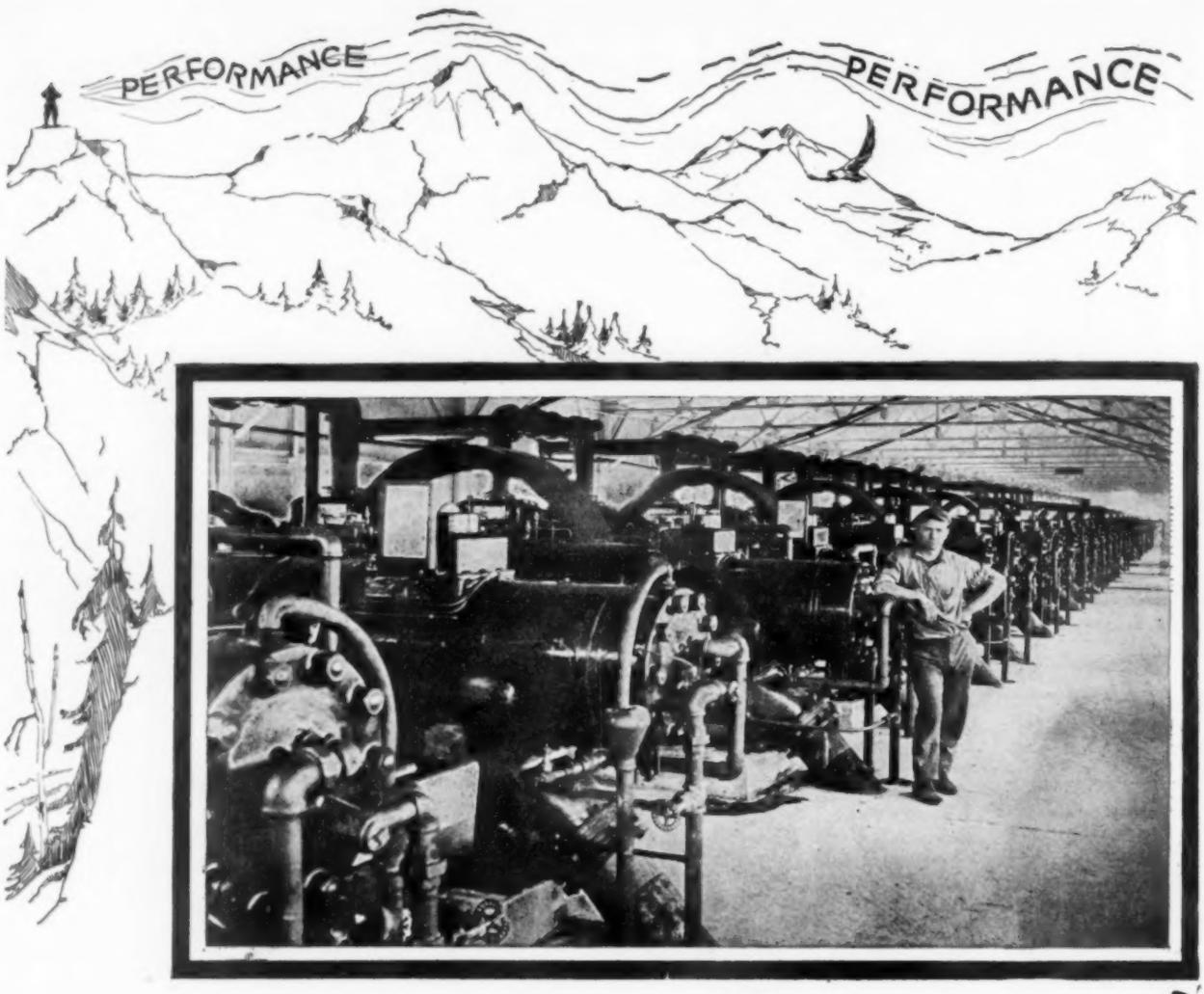
The beam adjuster keeps the polished rod in perfect alignment during the stroke of the beam, thus lessening the wear on the rod and equipment.

The rod rotator automatically turns the sucker rods with every stroke and tends to cause even wearing of the rods at all points.

More information can be had from J. P. Ratigan, 1213 Santa Fe Avenue, Los Angeles, California.



J. P. Ratigan Shock Absorber and Rod Rotator




# ECHOES *Performance*

The low, insistent drone of Clark Compressors is echoed and re-echoed throughout the length of the Oil Industry, in hundreds of installations that are proving conclusively that Clarks are the most compressor for the money.

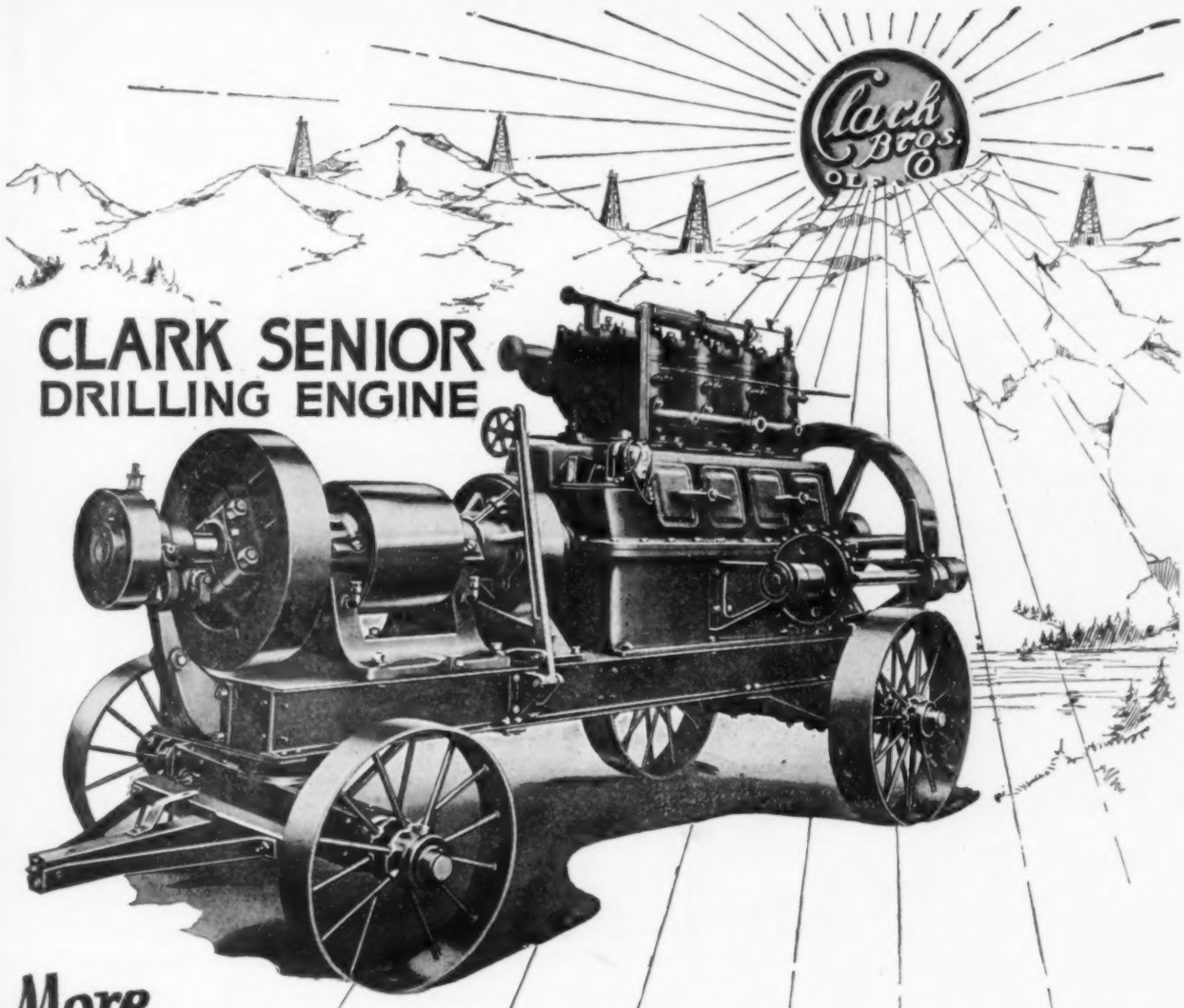
In every plant in which they are installed the smooth flowing purr of Clark flywheels gives back the answer to continuous, trouble-free performance.

The above shows the Clark installation in the plant of one the largest operators in the Mid-Continent field.

Clark Bros. Co. OLEAN, N. Y.

# CLARK

*Say you saw it in The OIL WEEKLY*




*More POWER! to you!*

# INTIMATELY KNOWN INTERNATIONALLY

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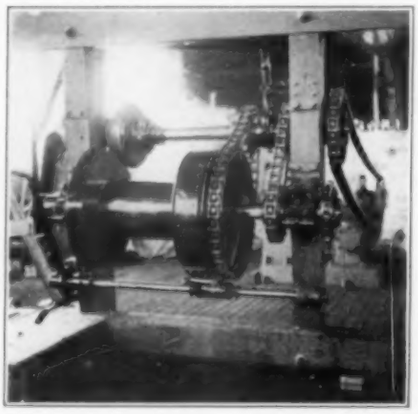
# CLARK

*Say you saw it in The OIL WEEKLY*

## Lufkin Two Post Hoist Uses One Direction Power

With the Lufkin two-post hoist now being used in many fields it is not necessary to reverse the motor or oil engine for pulling rods and tubing, the speed being in one direction and the power in absolute control of the operator.

A loose drum is mounted on the



Lufkin Two-Post Hoist

main shaft, which is provided with bronze bearing and ample oiling facilities. This drum is provided with the usual style of brake band and is driven with a wedge clutch of the usual hoisting engine type. The load is hoisted with this clutch, either at low or high speed.

A friction is provided to overcome the inertia to reverse drum to facilitate fast work in pulling rods and tubing, although when the brake is released the drum will unwind, but the hurry-up friction is provided to give the load a quick start and needs only to be applied for an instant. On the other hand, with no load, the friction is used to bring the block down quickly.

The hoist is provided with 3 15/16-inch shafts, all bearings being duplicates, all sprockets of steel, except the larger clutch sprocket, which is semi-steel, and takes 1030 chain.

The brake band is made of regular asbestos brake lining and is six inches wide.

An extra sprocket is provided on drum shaft for driving rotary, should one be necessary to clean out a well.

The low speed is ratio of 2½ to 1, which gives about 100 feet pulling speed and should be used when starting to pull rods or tubing, and as the load gets lighter the high speed, which is 250 feet per minute, can be used.

All levers to operate the machine are arranged for centralized control.

The whole rig is mounted on two posts, no parts being bolted to the floor. Posts are included in the hoist and are of oak. In a very few minutes this hoist can be arranged to do extra heavy pulling like an ordinary draw works. On the slow speed sprocket are holes for four large, threaded bolts that lock the drum to the slow speed sprocket. This makes a direct drive and of course the clutch is also set to help do the pulling.

By reversing the motor the rig will act as an ordinary draw works, however, it is recommended that the sprocket on the drum shaft for driving the rotary be placed on the pumping unit shaft, which greatly reduces the speed of the hoist and increases the pulling power.

By this plan a speed of sixty-five feet on the drum may be obtained, which with the travelling blocks in proportion to the job to be handled, will take care of sanded tubing in most every case.

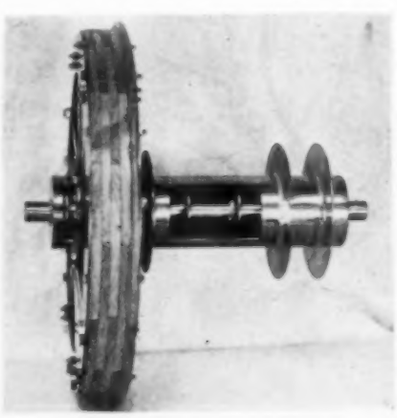
More information can be had from the Lufkin Foundry and Machine Company, Lufkin, Texas.

## Tulsa Concern Offers New Construction in Calf Wheel

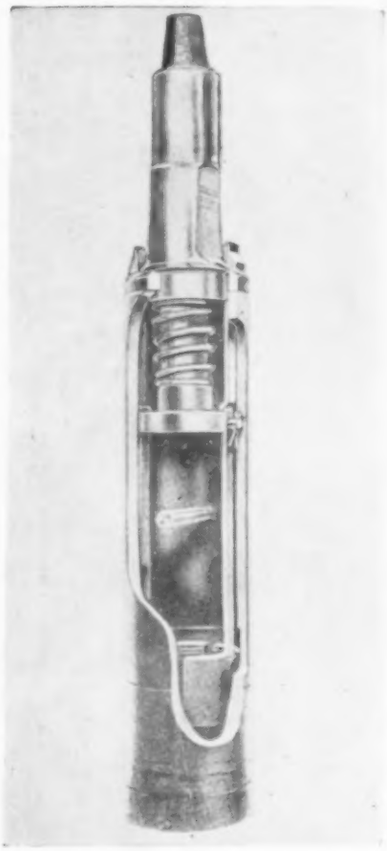
An entirely new type of construction is embodied in the new reinforced calf wheel being manufactured and sold by the Tulsa Rig, Reel and Manufacturing Company of Tulsa under the trade name of the American Steel Calf Wheel. It is built with either 16 or 18-inch shaft.

A railway car axle extends through the entire shaft, the ends forming gudgeons and disc plates welded to the axle in the center form a reinforcing means to prevent collapse of shaft under heavy load. In general construction the American steel calf wheel follows the standard type of calf wheels for oil country use. The arms are bolted to steel rings which are electro-welded to the shaft. The rim of the brake wheel is made up of two heavy steel rings that give added strength.

An American steel bull wheel is being constructed along similar lines and will also be manufactured and sold by this company. Detailed information will be supplied on request.



Tulsa Rig and Reel Company Band Wheel



Bellum Trip Socket

## Bullum Trip Attachment Works on Any Slip Socket

Among the latest developments in slip sockets is the Bullum trip attachment for slip sockets, manufactured by The Oklahoma Iron Works, Tulsa, Oklahoma.

This invention is a practical and efficient device for converting the old style slip socket into a trip slip socket. Hold of slips can be released if the tools cannot be jarred loose.

Important features of the attachment are that it can be fitted to any style slip socket. I tcan also be used with any style socket slips.

The attachment is said to secure a perfect hold on lost tools. A block of wood is placed between the upper part of the slips, holding the slips apart until the top of the tool knocks out the block of wood. Then the pressure of the coil spring forces the slips down over the tools securing a firm hold.

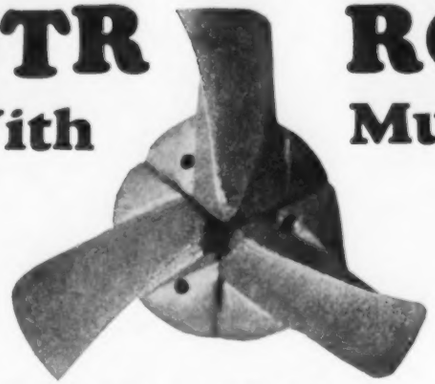
Pressure of the coil spring holds slips in proper position and the attachment will not release while jarring up.

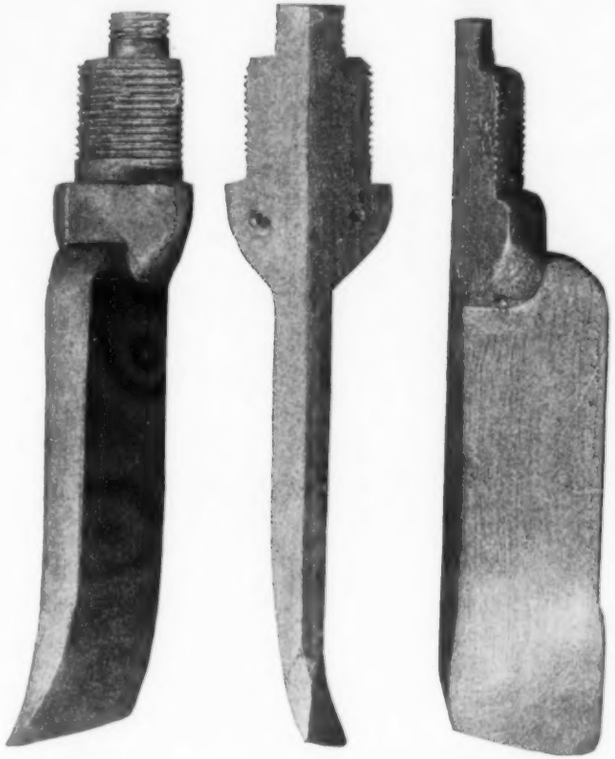
Hold can be released by lowering the socket until trips engage the trip ring. The socket then can be withdrawn from the well.

The company will furnish more information on request.

# The MULTI-CUTR ROTARY BIT

## A Fish-Tail Bit With Multiplied Efficiency





POSITIVELY drills a ROUND STRAIGHT hole.

Requires LESS POWER to operate.

EASILY DIS-ASSEMBLED, SHARPENED, GAUGED and RE-ASSEMBLED.

Made to WITHSTAND the STRESS of ACTUAL OIL FIELD SERVICE.

75 Per Cent FASTER and 50 Per Cent GREATER FOOTAGE in ALL FORMATIONS than ANY OTHER FISH-TAIL BIT.

SOLD UNDER POSITIVE GUARANTEE OF UNEQUALLED PERFORMANCE.

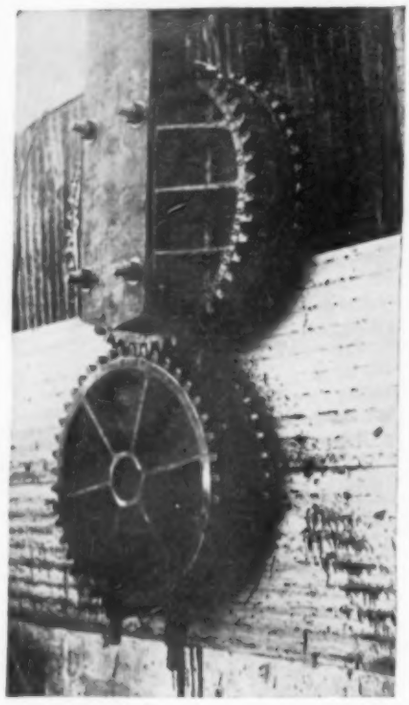
Fully Patented.

*Address All Communications to*

**The Multi-Cutr Rotary Bit Company** P. O. Box 847 KANSAS CITY, MO.



*Say you saw it in The OIL WEEKLY*



Gear Attachment on Fetty Long Stroke Pumper

## Fetty Long Stroke Pump Being Made More Durable

So as to entirely eliminate the possibility of breaking or unusual wear on the parts, gears of the Fetty long stroke pumping attachment are now being made with chrome vanadium steel. This makes the gears virtually unbreakable and greatly prolongs the serviceability of the attachment which is manufactured and sold by C. C. Fetty and Company of El Dorado, Kansas.

The Fetty attachment also is being made with three braces on each side of the pitman flange instead of one. This gives greater reinforcement where the strain is greatest. The stirrup is now being made of chrome venadium steel, it being hammered out of six-inch billets. The connecting rod bolts are being made long enough to allow running the nuts up to the end of the bolt, thus allowing the pitman gear to drop low enough to allow the end of the beam being taken out of the way for pulling wells.

The Fetty long stroke pumping attachment is being made in two sizes, both five-foot and six-foot length strokes. Further information may be had from the manufacturers direct.

Sheehan Combination Trip Jar-down Casing Spear Showing Its Use for Both Jar-up and Jar-down

## Jar Up or Jar Down Is Claim for Casing Spear

Several worth-while advantages of the Sheehan combination trip jar-down casing spear are claimed by its manufacturers, the Oklahoma Iron Works, Tulsa, Oklahoma.

The spear can be used as a "jar-up" or "jar-down" spear.

It is provided with a finger collar which holds all three slips in the same position on the slip seat.

This insures each slip taking uniform hold.

Slip seats are of sufficient length to provide a perfect seat for slips in any position.

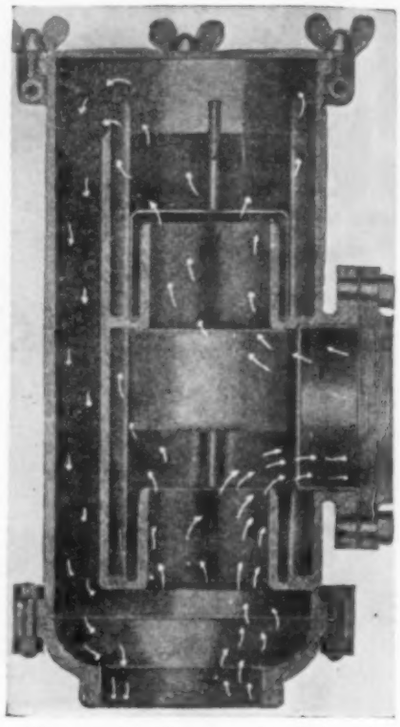
A booklet giving complete information will be mailed by the company, on request.

## Westcott & Greis Improve Their Liquid Seal Valve

Improvements made on the Liquid seal valve being manufactured and sold by Westcott and Greis of Tulsa with branch offices at Dallas and Los Angeles, have not only made the appliance more serviceable but have greatly added to the efficiency of the evaporation elimination features of the product.

These valves now are made in one complete casting. They not only prevent mechanical carrying power, such as winds crossing an opening from any direction thereby causing a vacuum that will draw both light and heavy vapors, but also tend to establish a more mean temperature on tanks on which they are installed. By holding a slight pressure on the body of oil in the tank, losses from evaporation are eliminated with the use of the valve by preventing any more gases from arising out of the oil itself. These two features are absolutely essential where any recovery system is in use.

Also suitable for breaking vacuums, the Liquid seal valve will relieve internal pressures before permitted to reach a dangerous stage. The valve has thoroughly proved itself in installations in the field and on refinery tankage and is furnished complete with all flanges. This facilitates installation on recovery systems already in use.



Westcott & Greis Liquid Seal Valve

Further information may be obtained from Westcott and Greis direct or from any of the company's branch offices.

## Lufkin Pump Unit and Hoist Finds Favor in Texas Fields

Since the introduction of the Lufkin Pump Unit and Hoist several months ago, a number of these outfits have been installed throughout Texas fields and adjoining ones, and are giving fine service.

This equipment replaces the standard rig and is recommended because of its low costs, its low upkeep, time saved in pulling rods and tubing, great safety, high salvage value, reduced fire hazard, and the added production gained by having the well pumped the greater part of the time.

The fly wheel effect stabilizes the motor and equalizes strains on rods and equipment.

The outfit can be used for pumping either with electricity or gas engines, in combination with the hoist for pulling rods and tubing, for bailing and cleaning out either with rotary or cable tools.

More information can be had by writing the Lufkin Foundry and Machine Company, Lufkin, Texas.

Lufkin Pumping Unit

## Acme Fishing Tool Offers Tool for Releasing Packers

The Acme Fishing Tool Company of Parkersburg, West Virginia, has recently perfected a tool for the purpose of releasing packers and making them more easily removed from the hole.

It is a well-known fact that water and sediment collect on the top of packer, which makes it hard to remove them when it is desired to pull the tubing.

The packer release is provided with slots which are opened when the tubing is raised, permitting the water and sediment to be drained through the tubing and blown from the hole.

If the packer still refuses to come after the water and sediment are drained from the top, the packer release may be used as a set of jars to jar it loose.

In handling gas wells that have two pays of gas with a packer between them, it is possible to keep the water off the top pay by means of the packer release, by simply raising the tubing enough to open the vents. The water enters the tubing through the vents in the packer release and is immediately blown from the hole. This will keep the upper pay free from water and make it last indefinitely.

Additional information, as well as descriptive literature, may be secured by applying to the Acme Fishing Tool Company.

## S. & L. Pumping Jack Has Range of Stroke Lengths

The S. & L. pumping jack, especially adapted to long stroke pumping, is being marketed by the San Antonio Machine & Supply Company, San Antonio, Texas.

This jack is of the wheel type and is said to produce twice the capacity of the old style jack. The jack creates a direct pull only on the polish rod and eliminates jerks and vibration.

S. & L. Pumping Jack

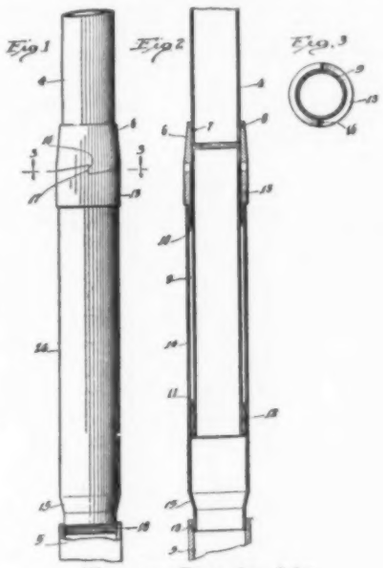
The jack can be supplied in two sizes. No. 2 is designed for holes up to 2000 feet, with a range of four strokes, up to 42 inches. The No. 1 is designed for holes up to 4000 feet, with a range of six strokes, up to 60 inches.

Further information will be supplied by the company, on request.

## Lorraine Corporation New Expansion Joint

A new expansion joint has recently been announced by the Lorraine Corporation of Los Angeles, California.

The idea incorporated in the Thompson expansion joint, as this joint is called, is simple. The joint consists of a coupling which screws onto the bottom of a length of casing. Into the lower end of this coupling is screwed an inner lining having the same inside diameter as the casing. This is surrounded by an outer sleeve, the bottom end of which screws into the next lower joint of casing in the well. The coupling sleeve and liner are so constructed with shoulders to limit the movement of the sleeve and liner from each other, and to prevent complete separation of the joint in the event it is desired to pull the casing, also making it possible to lower the casing with the joint in place.




Thompson Expansion Joint

This joint also provides an inner liner which has ample space for expansion without in any way affecting the outer casing or coupling. The joint is also provided with ample means to prevent turning, or movements between the inner liner and the sleeve, except such as to enable screwing into the casing. It is placed approximately 60 feet above the shoe of the water string of casing which is positioned above the oil strata, so that when the water is bailed out and the oil enters the oil string, the expansion resulting from this heat is taken by the joint, and therefore can not in any way affect the casing.

Additional information will be supplied by the company on request.

## Distant Hand Control For Drilling Engines

The need for distant hand control of oil well drilling engines, particularly when backing out the drills, has been met by The Pickering Governor Company of Portland, Conn.

A spring loaded by-pass valve is incorporated in the valve chamber, controlled through a sheave wheel, so that an operator on the derrick platform is enabled to speed up the engine without the necessity for disconnecting the governor.

Pickering Governor

To meet this service, improvements have been built into the governor to withstand the overspeeding, yet, when return to the governor control is desired, the Pickering will handle the load instantly.

Complete information will be mailed upon request to the company.

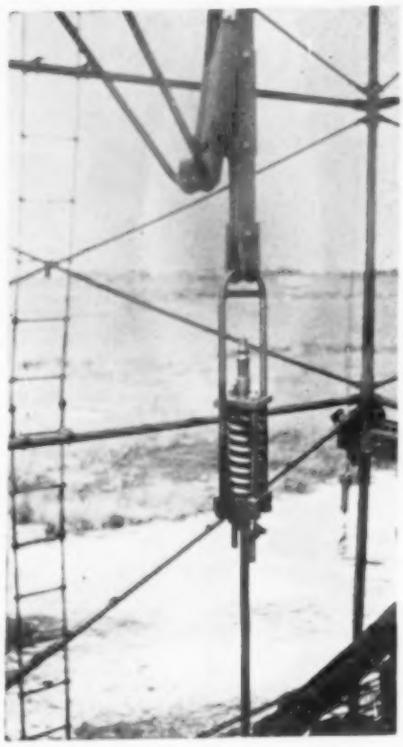
## Special Fabric Water Bag Finds Favor in Oil Fields

Egyptian brand water bags, manufactured by the Whitaker Manufacturing Company, 409-415 South Green Street, Chicago, Illinois, are finding a big market in the oil fields.

These water bags are made of a superior quality imported flax fabric especially woven for the purpose, and have the peculiar property of holding water and yet exuding enough moisture to prevent the sun from having any effect on the water in the bag.

The improved top is detachable, making the bag sanitary and easy to keep clean. It can be turned inside out for thorough cleansing and drying in the sun.

Sizes range from one to five gallons capacity. Further information will be supplied by the company on request.



Reschke Machine Works' Shock Absorber

## Shock Absorber Stops Rod Breakage, Manufacturers Say

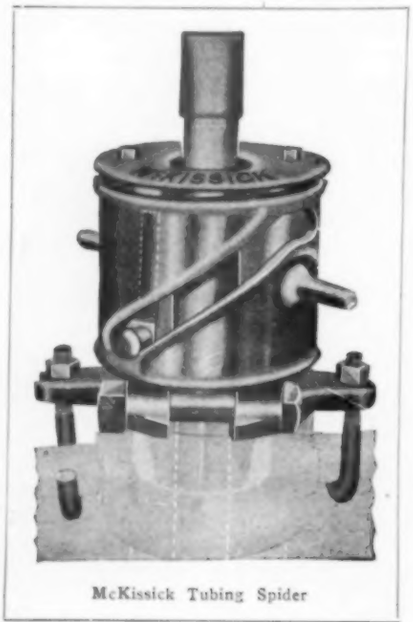
A shock absorber for use on pumping wells is announced by the Reschke Machine Works Company, 908 N. Washington Avenue, Wichita, Kansas.

This absorber has in addition to the absorbing feature, means for tensioning the springs to the weight of the regular load of the rods and fluid and only acting when the rods pick up the load or overcome the inertia of the load. In this way the springs recover their regular position before the load has reached the top thereby utilizing the entire length of the stroke and helping the rods to recover themselves. The back lash is relieved by a spiral rebound spring.

An example of how the absorber works is taken from literature supplied by the manufacturer: "For instance, the regular load of the rods and fluid plus the friction is 11,800 pounds. The tension nuts were screwed down until the springs would not move at this load. The pick-up or overcoming of inertia increased the load to approximately 19,000 pounds. Under this additional load the springs would act, but would recover themselves by the time the load has moved upward three feet, and since the tensioning screws act against the buffer spring, there is not the slightest jar or jerk at any point."

It is claimed that these absorbers save 90 per cent of rod breakage.

More information can be had upon application to the company.



McKissick Tubing Spider

## Lightning Wire Line Beam Hanger Handles 7-ft. Stroke

Capable of handling a stroke seven feet long, the Lightning wire line beam hanger has been designed by the manufacturers, the Kansas City Hay Press Company of Kansas City, for use in long stroke pumping. It is designed for three-quarter inch or one-inch wire cable.

The Lightning wire line beam hanger provides a complete outfit. It is easy to install, works smoothly and is made with adjustable mule head. The top yoke catching is self-oiling and adjusts itself to a square pull. A heavy four bolt adjuster clamp is furnished with the outfit at no extra cost. The hanger may be used with or without the straight lift rope guides and is so priced.

Kansas City Hay Press Company Beam Hanger

Fitted with quick detachable rope and castings, the Lightning hanger is made of steel and the special all-steel adjuster clamp operates like a drilling wire line clamp.

## Peerless Supply Company Makes New Tubing Spider

A new type of tubing spider which eliminates the use of one tubing elevator and which permits tightening up the bottom end of the collar, thereby overcoming the possibility of parted tubing, has been perfecetd by W .H. McKissick, and is being manufactured by the Peerless Supply Company of 321 West Second Street, Tulsa, Oklahoma, and will be sold through all leading supply stores.

The McKissick spider has a guide at the top which permits the tubing collar to pass through without coming in contact with the slips. It is split clear through to allow for taking it off and putting it on without any unnecessary change in pulling. It is designed to fit any size casinghead without bushing, it being fastened onto the casinghead with J-bolts connected to the lead-line from the casinghead. The raising and lowering of the slips is operated with the foot; the sleeve being turned a quarter of a turn to the right or oscillating it back to the left in the same manner permits the raising or lowering of the slips. It has been designed without springs or rivets and has been made as near fool-proof as is possible in tools of this kind.

The McKissick tubing spider is designed to work on two, two and one-half and three-inch tubing with one spider, the only change necessary is to change the slips to comply with the size of tubing to be used. A two-inch spider is made especially for two-inch tubing, which will take both regular and upset tubing.

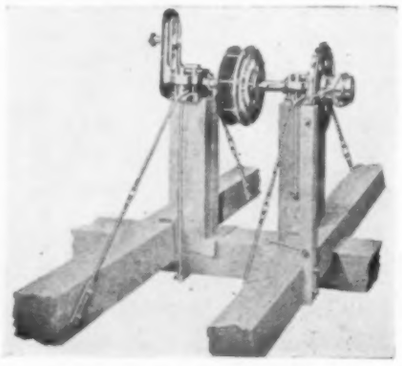
Further information may be obtained by communicating with the company direct.

## Ideal Shaft Assembly Rig Iron Improved

Improved construction with reinforcements at the wearing parts has been accomplished by the Western Iron and Foundry Company of Wichita, Kansas, in the manufacture of their Western Ideal shaft assembly rig irons now being sold throughout the oil country.

Made in accordance with specifications of the committee on standardization of the American Petroleum Institute, Western Ideal rig irons are interchangeable and are especially suitable for deep drilling. Increased strength has been added in the crank and the pin and clutch and in improving the product the manufacturers have re-designed it so as to afford extra wear where most needed. This means that the metal has been distributed where it belongs.

Further information about Western Ideal rig irons or the new type turnbuckle derrick that the company is bringing out may be obtained from the Western Iron and Foundry Company direct.



Western Ideal Shaft Assembly

# Bull Dog Products

## Safety and economy combined

### The Bull Dog

Safety Sucker Rod Elevator

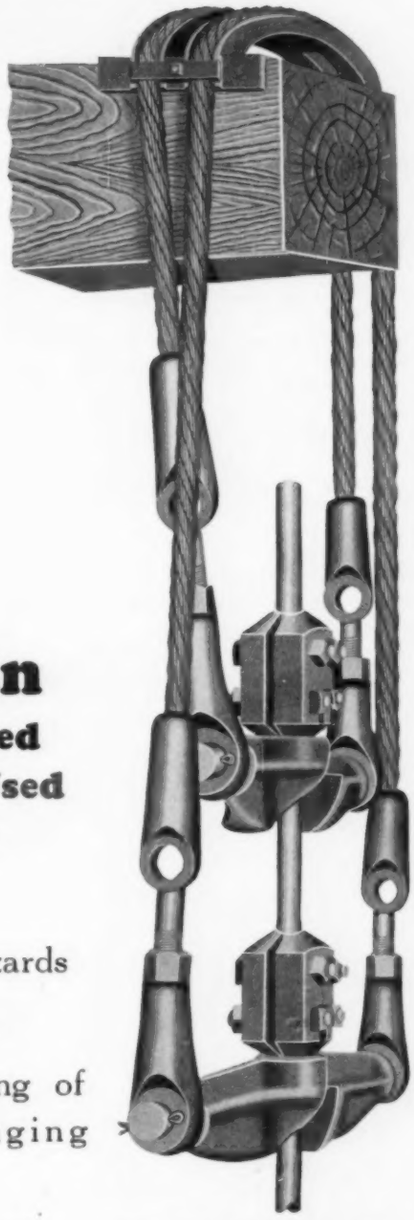
**The safest rod elevator you have ever seen.**

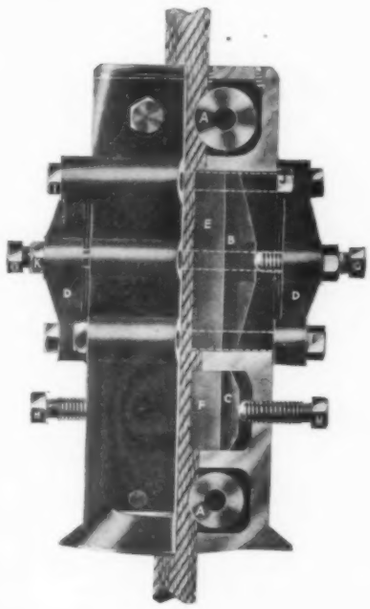
Simple in construction—

Requires no hook—

Eliminates one rod wrench—

As fast as your hands.





### Huffman

**Double Packed Universally Used Oil Saver**

—Saves oil

—Reduces fire hazards

—Saves wire lines

—Prevents spraying of oil while changing rubbers.

On Exhibit in
Frick-Reid Supply Co. Booth
Petroleum Exposition

*Manufactured by*

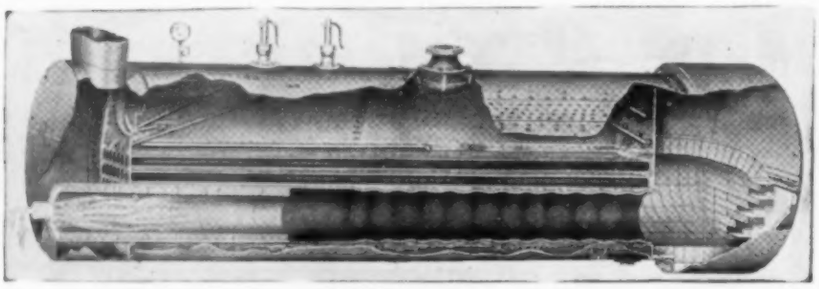
**Equipment Manufacturing Co.**

P. O. Box 307 Tulsa, Okla.

### Castle Rotor

**The World's Best Beam Hanger**

—Prevents Unscrewing of Rods
—Each stroke rotates rods slightly
—Rods wear four times as long
—Equalizes wear on tubing and working barrel
—Reduces shut downs and rod pulling jobs to a minimum
—Cannot twist rods off



Sketch of Taylor Boiler

## Taylor Boiler Introduced In Mid-Continent Fields

The Taylor boiler has been introduced this year in the Mid-Continent fields. It is a boiler specially designed to burn oil or gas fuel economically and safely. The furnace is a long, small-diameter, corrugated tube of the type which has been very successfully used in marine work for many years. The hot gases travel 14 feet through this furnace and then return 14 feet through 3-inch return flues, the 28 feet of flame travel resulting in greater economy.

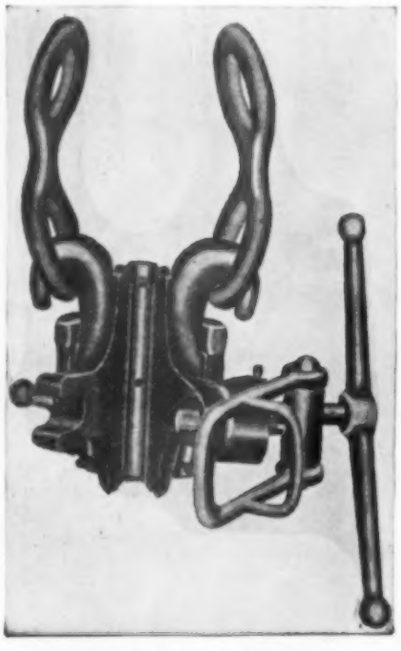
The most important advantage of the new construction, however, is in low upkeep and safety. The furnace contains no flat surfaces under pressure, and therefore no staybolts, and the design eliminates the danger of crown sheet failures, which have been the most common cause of accidents and expensive repairs. A man can enter the boiler above the tubes for cleaning out, and if the tubes are removed, can reach every part of the boiler and furnace surface for cleaning or inspection.

An interesting application of the boiler has been preheating oil in refineries where its use has resulted in marked economy of fuel and high capacity per unit cost.

The boiler is round and can be rolled, which makes easy handling.

Operators report rapid steaming, dry steam, and a steady pressure under sudden strains and heavy demands without pulling over.

The Taylor boiler is manufactured and distributed by the Coatesville Boiler Works, 604 American Exchange National Bank Building, Dallas, Texas.



Western Supply Drilling Clamp

## Western Supply Company Offers Wire Line Clamp

Equipped with three jaws, one fixed in the housing and the other two intergral with the right and left halves, the Crotto wire line drilling clamp being manufactured and sold by the Western Supply Company of Tulsa is perfectly balanced and easily hitched and unhitched.

All liner seats on the Crotto clamp are machined with separate grooves in halves for gripping sand line. The hinge pins are fitted slightly loose permitting easy closing compression, the liners adjusting themselves automatically to the line. This insures an easy, positive grip, it being impossible to pinch, wedge or flatten the line. The three interchangeable liners on the clamp are with funnel shaped tops and are drop forged with projected working faces practically encircling the line and eliminating the danger of pushing a high strand up the line when the cable is slipped.

The ball bearing thrust is accomplished by a ball bearing placed under the threaded gear which takes the entire load of the closing compression, permits of easy operation and prevents the clamps from sticking. The clamp is equipped with weldless non-fouling links.

Further information may be obtained by communication with the manufacturers direct.

## Reschke Machine Offers New Combination Hanger

Reschke Machine Works Company, 908 N. Washington Avenue, Wichita, Kansas, has recently put on the market a device which is finding favor in the Mid-Continent fields.

This outfit is called a Combined Hanger and Paralleling device. It is made to fit into the regular temper screw slot and has all the essential features of the regular hanger. In addition it has the means of keeping the polish rod parallel with the tubing. The rod line may be hitched to the loop at the top.

The hanger is sold with or without the chain since a cable may be used, thus reducing the purchase cost to that of the regular hanger.

More information will be provided by the company on request.

Reschke Combination Hanger and Paralelling Device

## O'Bannon Company Makes Improved Rod Elevator

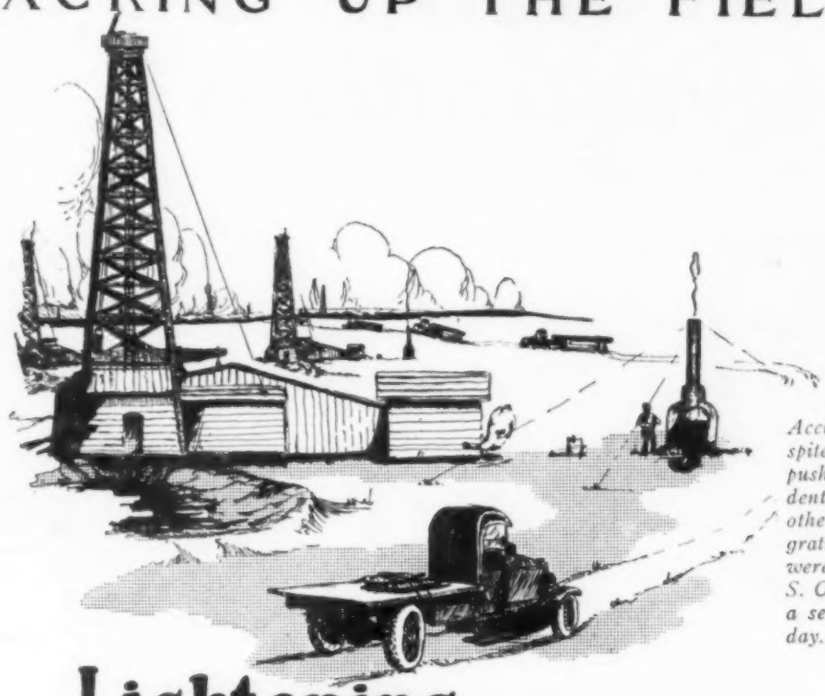
The Walter O'Bannon Company, Tulsa, Oklahoma, announces an important improvement in its sucker rod elevator.

This improvement consists of lugs added to the sides of the elevator. The lugs hold the bail in position for hooking on. Spring rings snapped into grooves at the end of the trunnion prevent the bails from spreading when an extra hard pull is made on a sanded up string.

Additional information on the elevator will be mailed upon request to the company.

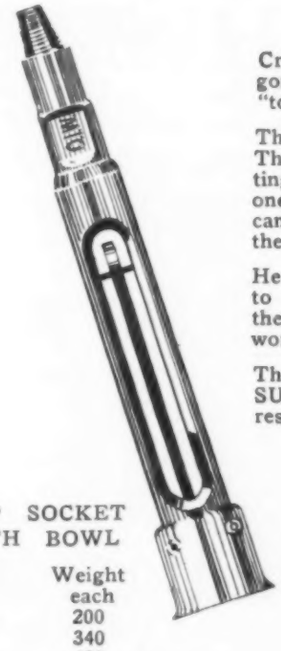
O'Bannon Sucker Rod Elevator

# BACKING UP THE FIELD PLAY



*Accidents will happen in spite of the best "toolpushers." A little incident happened just the other day which was gratifying to us. We were able to answer an S. O. S. call and render a service that saved the day.*

## Lightening the "toolpushers" load

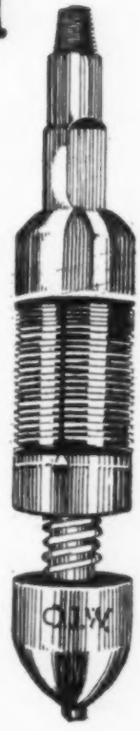


Crash! Bang! Blooey! A cable has parted, the tools have gone into the hole and there is a fishing job on hand. The "toolpusher" rushes up to investigate.

That particular "toolpusher" knows it is time to get busy. The right kind of fishing tools and the quickest way of getting them on this location is his first thought. The next one is—INTERNATIONAL SUPPLY COMPANY, for we can furnish the necessary fishing tools to get them out of the holes, and furnish them P. D. Q.

He wires, he phones, or he gets into his car and goes right to trouble headquarters in the nearby town—you can bet there is a branch store there—and in a very short time, work has begun.

The "toolpusher" has a real friend—INTERNATIONAL SUPPLY COMPANY is always ready to come to his rescue.



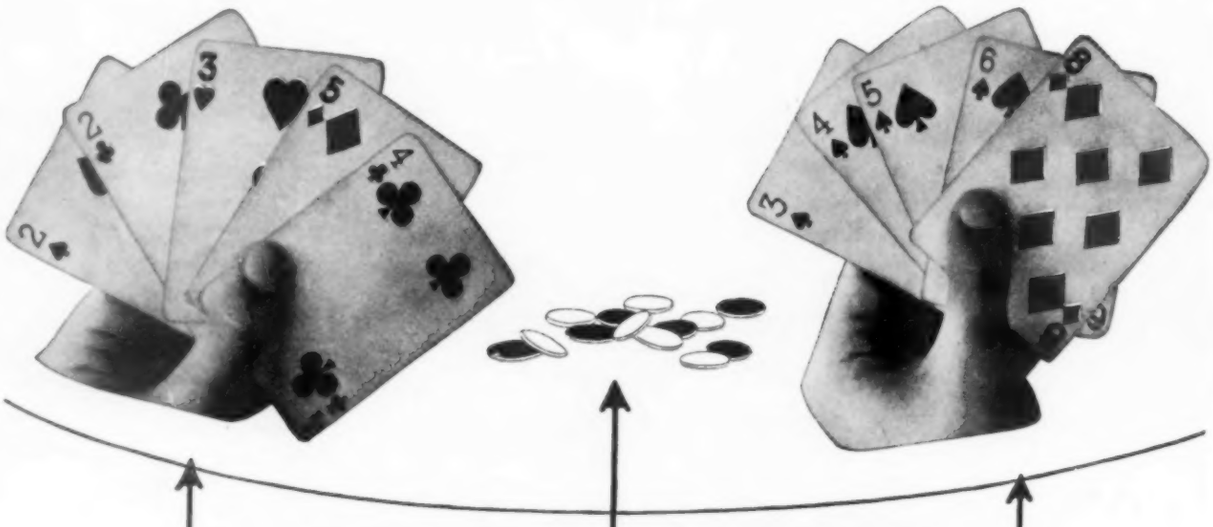
SLIP SOCKET WITH BOWL

| Size in. | Weight each |
|---|---|
| 6⅝ | 200 |
| 8 | 340 |
| 10 | 490 |

INTERNATIONAL SUPPLY CO.
TULSA OKLA.

# GET A SHOWDOWN

## — *you're entitled to it*



**WOULD YOU** **LET HIM**

**HAVE THIS** **WITHOUT A SHOWDOWN?**

*The Fightin' kind of a Poker Player plays and calls every hand; a regular "show me" fellow. As a rule he plays his business the same way. When he does he uses good judgement, plus*

# WILLIAMSPORT

*Telfax Tape Marked—Factory Certified*

# WIRE LINES

**because in no other Wire Line can he get such a definite "show down" as to grade.**

What difference does it make how reputable a Wire Line manufacturer is, if he does not protect you from getting the wrong grade (tensile strength). No maker can stay with a Line until it goes into service and tags and reel marks can easily get mixed up.

The old, obsolete dangerous method of selling uncertified wire lines are gone forever from the Williamsport organization. Each grade of Williamsport Lines are marked at the factory by the only man who actually KNOWS the grade. He weaves a Telfax Tape into and throughout the hemp core of the Line which states the grade in plain English. This cannot be separated from the line, no matter how often it changes reels or tags. MISTAKES cannot "get by."

Why Then Take Chances on Unmarked Lines?

If you buy a mild plow line and you get a Crucible cast line by mistake—it breaks and closes down an operation. Does the fact that the manufacturer is reputable change the result?

No other Wire Line affords this great protection—and it is worth vastly more than the Line costs.

## WILLIAMSPORT WIRE ROPE CO.

Main Office and Works: Williamsport, Pa. Oil Country Sales Offices: Kennedy Bldg., Tulsa, Okla.

Houston Graham Mildred Shidler Blackwell Ardmore Holdenville Bristow Smackover Cromwell Arkansas City Eldorado Shreveport Casper

# WILLIAMSPORT

**SERVICE IN EVERY IMPORTANT FIELD**

# Here is our proof of grade (TENSILE STRENGTH)

## WHEN YOU BUY A WILLIAMSPORT

*Telfax Tape Marked—Factory Certified*

## WIRE LINE

**your purchase is safeguarded in the only way it can be—without a Laboratory test.**

Smart Engineers and Drillers are more critical now than ever before. They know that a tag or mark on a reel of Wire Line is a most unreliable document—not worth risking lives or a fishing job.

The time is fast coming when no one will accept a Wire Line without definite proof of grade such as is now provided in Williamsport Lines. The seller is going to find it as easy to convince the user that the Moon is made out of Green Cheese as to talk a user into believing a Wire Line is made of a certain grade of steel without proving it, by something more definite than the mark on a reel.

What users are demanding now is proof that stays with the Line—something which cannot be removed or altered.

The "Telfax" Tape in Williamsport Lines does this. It is put there by the men who actually make the line, the only men who know the grade.

This protection is so vital to users that it is sure to be demanded by every user who wants to play safe.

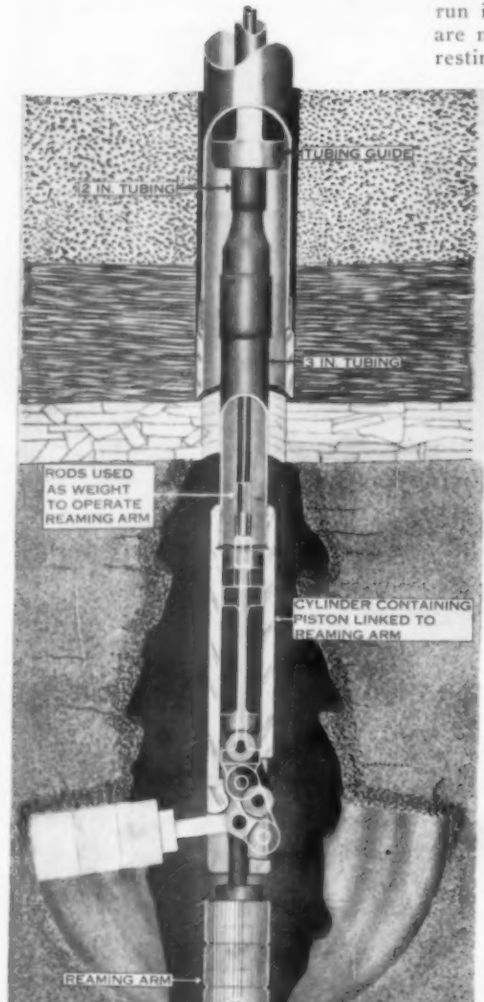
## WILLIAMSPORT WIRE ROPE CO.

Main Office and Works: Williamsport, Pa.
Oil Country Sales Offices: Kennedy Bldg., Tulsa, Okla.
Houston Graham Mildred Shidler Blackwell Ardmore Holdenville Bristow
Smackover Cromwell Arkansas City Eldorado Shreveport Casper

## WILLIAMSPORT

**SERVICE IN EVERY IMPORTANT FIELD**

*Say you saw it in The OIL WEEKLY*


TUBING GUIDE
2 IN. TUBING
3 IN. TUBING
RODS USED AS WEIGHT TO OPERATE REAMING ARM
CYLINDER CONTAINING PISTON LINKED TO REAMING ARM
REAMING ARM

Leidecker Underreamer

## Leidecker Sandreamer Has Automatic Action

The Leidecker sandreamer is an automatic force feed cutting device for enlarging the producing sand area. The reaming operation is commenced at the bottom of the well and is accomplished by utilizing the weight of the rods to force the reaming arm outward against the sides of the hole. The tubing is then revolved by means of the rotary table until the arm cuts its way to right angles. The tubing is then raised and the operation of enlarging the sand area is repeated until all of the producing sand has been reamed.

The cylinder containing the piston linked to the reaming arm is screwed on to three-inch tubing. It is usually best to run two or three joints of three-inch tubing, depending on the condition of the well. The rods are run in the well in the usual way, but are not screwed to the piston, merely resting on the piston with their weight automatically forcing the piston down and the reaming arm out against the side of the hole.

The well is shot in the usual way, the Leidecker reamer is installed and starts cutting at the bottom of the hole, not only insuring that all the loose sand from the side walls will fall to the bottom, but also that the side walls will be left in the best possible condition for maximum oil seepage.

Further information can be secured from the Leidecker Tool Company, Marietta, Ohio.

## Force Feed Lubricator For Drilling Engines

To enable anyone to quickly install "Manzell" force feed lubricators anywhere, even though proper tools are not available. Manzel Brothers Company, Buffalo, New York, manufacturers of the "Manzel" force feed lubricators, have designed and are now prepared to furnish special brackets and fittings with which it is possible to install "Manzell" lubricators on drilling engines in the field, without machine work, pipe fitting or thread cutting of any kind being necessary, the only tool required being a monkey wrench.

The brackets are designed to clamp around the steam pipe of the drilling engine, the lubricator then being bolted to the bracket. A special fitting is supplied which is slipped back of the link roller pin nut and the lubricator drive rod is then fastened to the fitting.

Annealed tubing, which can be bent at short angles or coiled, with compression couplings, is used for piping. To connect the tubing, it is slipped into the coupling and the coupling nut is tightened up. This makes a steam-tight joint that will not break, leak or come apart.

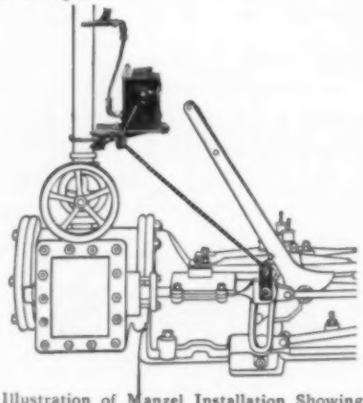
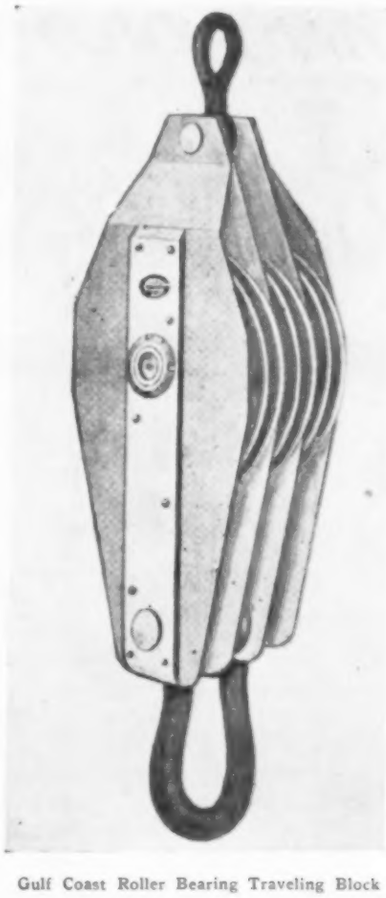


Illustration of Manzel Installation Showing Brackets

As shown in the illustration, these fittings make a very neat and substantial installation, and, at a very low cost. All parts necessary are supplied.

Brackets can be furnished for either single or twin engines.

Detailed information regarding these special brackets will be gladly furnished by Manzel Brothers Company.



Gulf Coast Roller Bearing Traveling Block

## Rollers, Special Lubrication, Feature New Traveling Block

A new roller-bearing, stream line, traveling block is a late addition to the Gulf Coast Machine & Supply Company's stock of oil field equipment.

This block is designed to secure perfect balance and may be lowered rapidly with no added weight to bail.

There are no corners or edges to catch on the upward pull.

Roller bearings are provided instead of the usual bronze bearing, reducing the friction and making the block quickly responsive and rapid in operation.

Plates are held in positive alignment by spacers on bail becket pin, and allow free swing of the bail.

An Alemite system of lubrication is furnished, which individually lubricates the bearing of each sheave independently.

More information can be secured by writing the Gulf Coast Machine and Supply Company, Beaumont, Texas.

R. B. D. Stuffing Box

## Stuffing Box Insures Continuous Lubrication

Because of its construction, the R. B. D. Stuffing Box, manufactured by the Oklahoma Iron Works, Tulsa, Oklahoma, maintains a constant supply of oil in the retaining chamber, thereby assuring continuous lubrication of the polish. This also prevents the packing from burning out.

This stuffing box has a retaining chamber which holds a quart of oil. A by-pass is arranged so that it supplies the oil automatically while the well pumps.

Should the well quit pumping, the ball and seat is arranged to prevent the oil from going back and causing trouble.

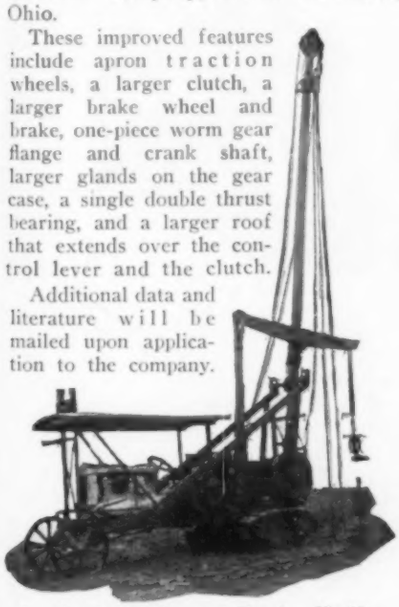
More information will be supplied upon application to the company.

## Traction Machine Company Makes Combination Model

An improved model of its combination pulling, cleaning and drilling machine is announced by the Traction Machine Company, North Baltimore, Ohio.

These improved features include apron traction wheels, a larger clutch, a larger brake wheel and brake, one-piece worm gear flange and crank shaft, larger glands on the gear case, a single double thrust bearing, and a larger roof that extends over the control lever and the clutch.

Additional data and literature will be mailed upon application to the company.



Combination Pulling and Cleaning Machine

## Spencer Trailer Made For Heavy Field Work

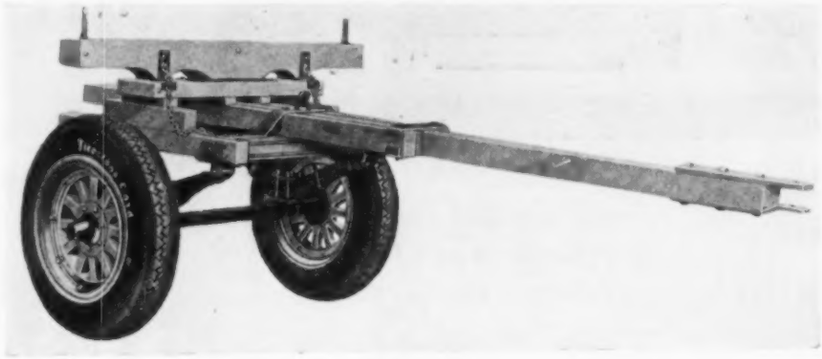
A trailer for oil country use is the Spencer trailer manufactured by the Spencer Trailer Company of Augusta, Kansas. This type of trailer has been designed to prevent frame and springs from being broken necessitating expensive delays and high repair bills and to get away from trailers of too heavy draft.

Hickory is used for the frame of the Spencer trailer, making the members large enough to carry the loads, it having been found from experience that this wood does not crystallize as does steel and that the frame will stand up under heavy usage. The frame is braced to counteract twisting strains.

The use of the wood frame reduces the total weight of the trailer. It is also less rigid, reducing vibration and cutting spring breakage to a minimum.

The trailer's qualifications of durability, lightness and low maintenance have combined to make the Spencer trailer one of the most popular in the field today. Three sizes are manufactured: Model A, 2½ ton capacity; Model D, 1½ ton Capacity and Model E, 1 ton capacity. Solid or pneumatic tires are furnished in standard sizes.

Complete stocks of trailers and parts are carried at the warehouse of the Leland Truck Equipment Company, 30 North Owasso Street, Tulsa, exclusive distributors at Tulsa, or at the company's factory at Augusta, Kansas. Complete information may be obtained from either source.



Spencer Trailer

## Axelson Load Indicator Has Use in Reducing Field Costs

Considerable attention has been attracted from operators by a load indicator put on the market by the Axelson Machine Company, several months ago. This indicator has found wide application in oil fields.

It was designed to accurately measure fluid column weights, sucker rod loads and cyclic loads during pumping, and for discovering certain peculiarities of pumping.

The manufacturers claim that by the use of this instrument, it is possible to definitely ascertain the cycle of loading, the impact from sudden back-up the uneven movement of an improperly loaded counterbalance, and all relative conditions which tend to make the production of oil a costly item due to unnecessary wear and tear on equipment.

The indicator is a springless hydraulic instrument equipped with a gauge.

Full particulars will be mailed by the company, Axelson Machine Company, Postoffice Box 337, Los Angeles, California.

Axelson Load Indicator

## Extension Lower Valve Finding Favor in Field

The Hough Extension Lower Valve, made by the Charles N. Hough Manufacturing Company, Franklin, Pennsylvania, is finding wide favor among field men.

This valve is filled with over-size Steelex ball and seat. It is built with mechanical accuracy and is of the best material obtainable.

The valve is self-contained, is tapped for gas anchor, and will fit any size working barrel. The steel coupling is made of solid bar stock, as is the seamless steel nipple and the inserted crown.

Information can be had through communicating with the company or upon request at any supply house handling Hough equipment.

## *From the Oil Industry's Big Bank to the Oil Industry's Big Show—*

TULSA is the oil man's town . . . . the Exposition, the oil man's show . . . . and the Exchange, the Oil Man's own bank. All three welcome you oil men from every state and nation, to the great home-coming in October.

No other great bank is so purely a bank of the oil business, nor so fully understands and helpfully serves the oil industry. It was organized by oil men, was built and is operated for the oil business. Come see one of the finest banking houses in America . . . . come 'shake' and get acquainted. We're expecting you.

# EXCHANGE BANKS OF TULSA

The Exchange National Bank — Exchange Trust Company

*Combined Resources Exceed Forty Million Dollars—*

# Welcome to the home of SKELLY!

*Visitors to the International Petroleum Exposition:*

¶ Skelly Oil Company welcomes you to Tulsa and to the 7-story Skelly building which is the company's home. From these headquarters radiate activities that are nation-wide in range.

¶ Skelly now enters almost every phase of oil producing, refining and marketing—it is an oil company complete in itself.

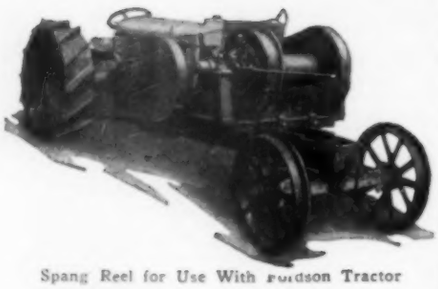
¶ Visit our Booth in California Building at the Exposition and the headquarters offices of the company. You will be cordially welcomed at both places.

## SKELLY OIL COMPANY

SKELLY BUILDING ▱ TULSA, OKLAHOMA

*Refinery:* El Dorado, Kansas

*Branches:* Kansas City, Mo. — Minneapolis — Omaha



Spang Reel for Use With Fordson Tractor

## Spang Offering Two New Pulling and Bailing Reels

Two new machines recently brought out by Spang & Company of Butler, Pennsylvania, are the Spang bailing and pulling reel for attaching to Ford and other trucks, and the Spang bailing and pulling reel for attaching to the Fordson tractor.

The reel for attaching to the Ford truck consists of a reel (winch) complete, including bearings, clutch, brake, etc., together with the necessary sprockets, hardened roller chain, and attachments to take the power from the rear wheels. The reel or winch has ample capacity to take lines long enough to bail or swab the deepest wells and also has sufficient power to be used for pulling rods, tubing, or casing. The reel speed may be varied by using different sizes of sprockets. Needless to say, it may be moved with ease and rapidity wherever an automobile can be used.

The reel for attaching to Fordson tractor consists of a reel (winch) complete, including bearings, clutch, brake, etc., together with an underframe which extends the location of the front wheels forward about three feet and provides a location for the reel. Power is taken from the side of the Fordson transmission by means of hardened roller chains to a sub-shaft and then to the reel. The reel or winch has ample capacity to take lines long enough to bail or swab the deepest wells and also has sufficient power to pull rods, tubing, or casing. Reel speeds may be varied by using different sizes of sprockets. This machine may also be moved as easily as the regular Fordson tractor.

Further information can be had from the company direct.

Spang Reel for Attaching to Ford Trucks

## Durability Features New Piston for Slush Pumps

The engineering department of the Craig Oil Tool Company, Long Beach, California, has perfected a new piston for slush pumps, and the piston is now being marketed by the company.

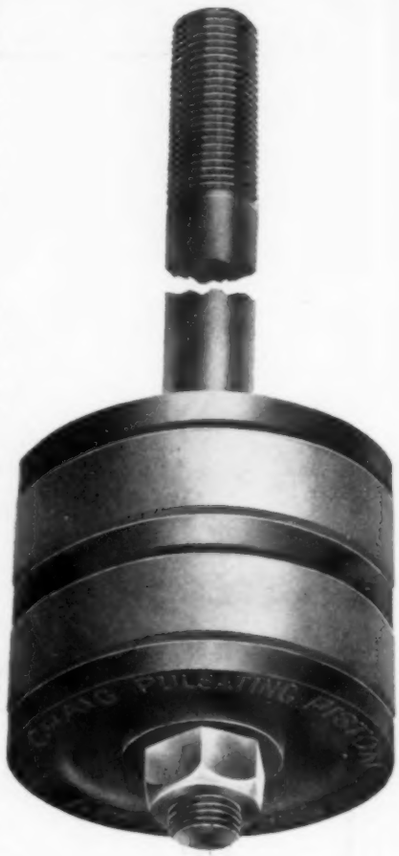
Advantages claimed for the piston are that it meets all the requirements of gruelling service and gives the driller an improved device that will immediately increase the efficiency of his slush pumps and permit of longer life to the liners, permit of more positive force-action of the liquid and effect a definite economy by reason of its durability.

The piston consists of three concentric units, fitting upon the pump rod, held in full-floating position by rubber rings. These units are of special analysis cast metal, the faces carefully machined and each unit perfectly balanced. Each of the end units is finished with a flange, car-wheel fashion, while the third unit is a simple flat plate which separates the end units. Against the flanges and upon the base of the end units rubber packing rings are placed which compress slightly.

When the piston is assembled and ready for action within the cylinder or liner the piston becomes full-floating. The only part that contacts upon the wall of the cylinder is the rubber. These rubber rings or packers are hollow on the inside, providing an open space underneath.

Four conduits or fluid ducts are drilled in the steel end units so that the liquid under pressure can be forced up underneath the rubber, thereby automatically expanding the rubber at the proper thrust period.

The two rubber units pulsate alternately. In other words, when the piston is pushed forward the pressure exerted in the forward chamber travels through the holes or conduits in the forward steel unit up against the rubber ring forming a tight fit. The one ring is expanded while its companion ring is at neutral or of normal diameter. On the return stroke the pressure from the opposite end of the chamber travels through the ducts up against the other rubber ring and expands it while the companion ring remains at neutral. Thus a pulsating expansion of the rubber ring occurs, synchronizing with the back and forward action of the pump rod. This provides automatic action without intricate mechanism. The fact that two rubber rings are used means double life. The more the rubber wears down in the rings, the more positive becomes the action of the pressure underneath, so that each rubber ring remains efficient until it finally wears out.




More information can be had by communicating with the Craig Oil Tool Company, Long Beach, California.

## Shaffer Gauge Cock for Steam Boilers Improved

Many improvements are found in the Shaffer gauge cock for steam boilers, manufactured by the J. E. Shaffer Company, Tulsa, Oklahoma.

The latest improvement is the exclusive fibre cushion wheel found only in this gauge. This wheel made of babbitt with fibre ring has an unlimited number of seats, and gives an absolute shutoff without leaking.

The Shaffer gauge cock has been adopted as standard equipment by five of the leading boiler manufacturers.

All parts of the Shaffer gauges are interchangeable. Any part broken can be replaced without buying a complete gauge.

Further data can be obtained from the company on request.

Shaffer Gauge Cock

## McKain Cracker Rope Knife And Cleaning Out Outfit

A combination cracker rope knife and cleaning out outfit, designed by J. B. McKain and manufactured in the J. B. McKain shop, Parkersburg, West Virginia, is recommended for use in the fields. It has been difficult to use ordinary crackers in many instances because of cracker splices. It has been necessary to get a knife that would clear the splice in small holes, and also have stock enough to stand to make the cut.

This has been accomplished in the new circular cleaning out and rope cutting outfits.

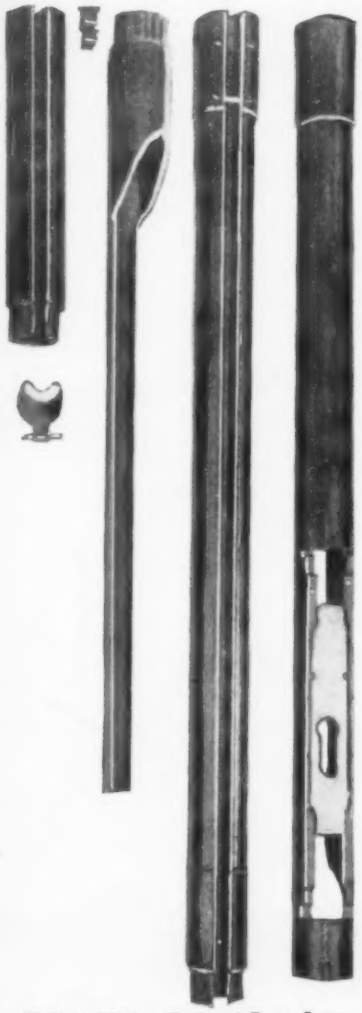
Attention is called to the circular jars in the tool which insure greater safety should there be any cavings on the rope socket. A separate tool is also provided for cleaning out in order to get a close cut, and there is a spud that connects to the main tool which starts anything by the rope socket.

In many cases, with this tool (which also acts as a bumper) it is possible to get out without cutting the line. Sometimes by hitching on and running until all cavings have been cleaned out and the tools have been given a good bumping, the line can be saved.

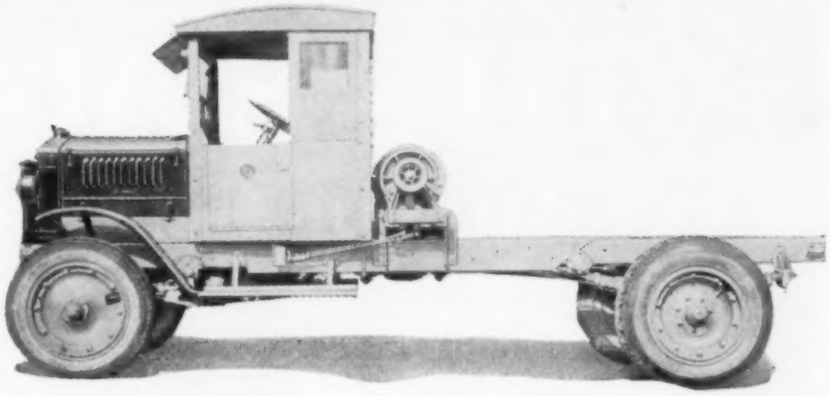
The sandline is used to run the outfit.

The tool is slotted with a lock joint and can be slipped around the wire and given a turn, after which it is impossible to get off until the joint is broken.

More detailed information can be had upon application to the manufacturer.



McKain Fishing Tool and Rope Cutter



Wichita Motors Company Oil Field Special

## Wichita Truck Designed For Heavy Loads on Rough Roads

Built for "heaviest loads o'er heaviest roads," is the way the new Wichita truck for oil field use is described. The truck is manufactured by the Wichita Motors Company, Wichita Falls, Texas.

This oil field special truck was designed and built for use in the fields of the Southwest, and is characterized by points which make it adaptable to conditions found in the Southwest territory.

Utmost cooling efficiency is secured through a tubular radiator which carries enough water to insure dependable cooling no matter how hot the weather.

A power plant immune to the twist and shock of heavy roads is obtained in the unit which contains the motor, transmission, clutch, pedals and gearshift all in one housing of three-point suspension.

Extreme flexibility is provided in the Hotchkiss form of drive which transmits the push of rear axle through the heavy duty flexible spring to the truck frame. Road shock and power delivered by the motor meet in the rear axle.

The S. K. F. ball bearing hanger permits the propeller shaft to conform to the rise and fall of the truck springs, but returns it to center, preventing "whipping."

An air cleaner keeps dust from the carburetor and motor parts.

The truck is equipped with full electric lighting equipment.

Further details can be obtained from the Wichita Motors Company, Wichita Falls, Texas.

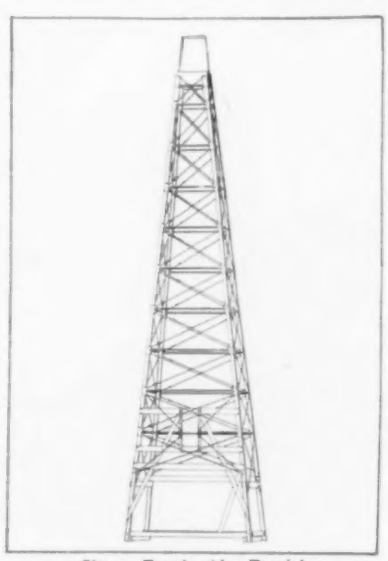
## New Type Turnbuckle Derrick Is Announced

Slater Brothers Corporation with general offices and factory at Sand Springs, Oklahoma, is manufacturing a new type of turnbuckle derrick that is being sold in the oil country. The company's line includes the 80-foot turnbuckle derrick, 116-foot and 122-foot turnbuckle rotary derrick.

The 80-foot derrick has a 22-foot base and top is six feet two inches with legs of selected long leaf yellow pine, eight by eight with top legs twelve by twelve. The gin pole is of Slater special steel construction with beam window of steel construction and well braced. The stemway is seven by two, opening of steel construction and braced with four girths, giving quadruple strength that eliminates bending when pulling in stem.

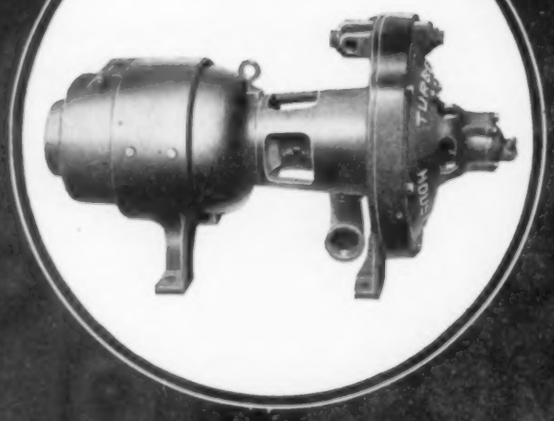
The Slater 116-foot rotary turnbuckle derrick has a base of 24 feet with the top six feet four and legs of eight by eight with top legs twelve by twelve. The 122-foot derrick is the California type with base twenty-six feet and top six feet eleven inches.

Further information may be obtained by commucating with the company direct.



Slater Turnbuckle Derrick

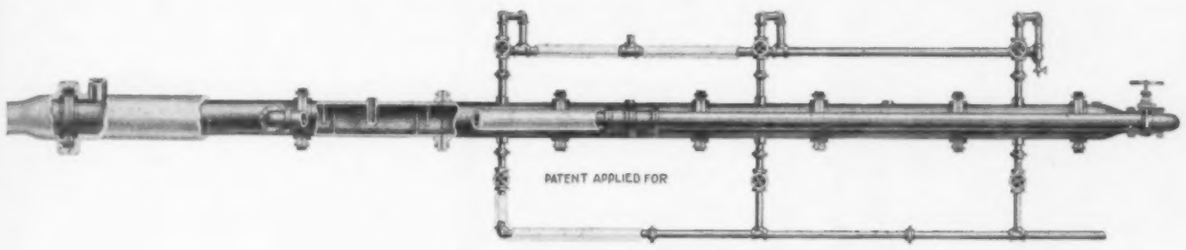
# "TURBOLITE"
## Turbo-Generators



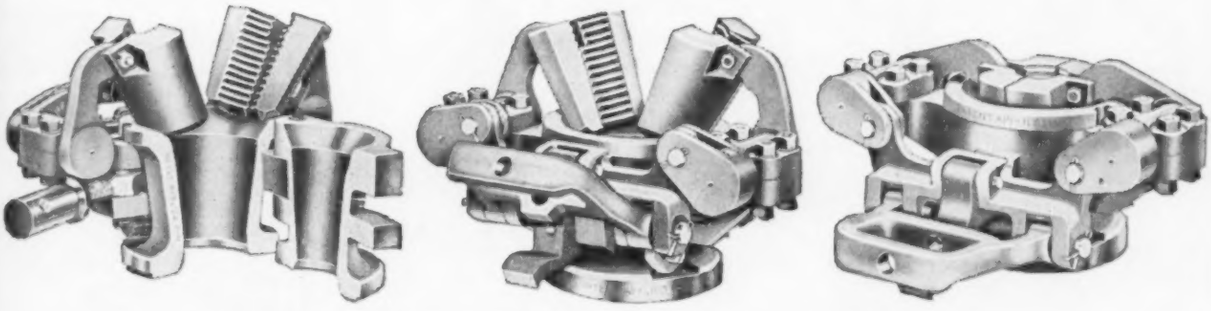
Economical
Dependable

Manufactured by
Houston Pump & Supply Company
Houston, Texas
*Sold by Dealers Everywhere*

*Say you saw it in The OIL WEEKLY*




Oil Treating Plant



Improved All-Steel Semi-Automatic Tubing Spider

Hold Down Casing Head

French
Gas-Tite Tubing
Anchor

Manufactured by

# HOUSTON PUMP & SUPPLY CO.

Carr and Leona Sts.
HOUSTON, TEXAS

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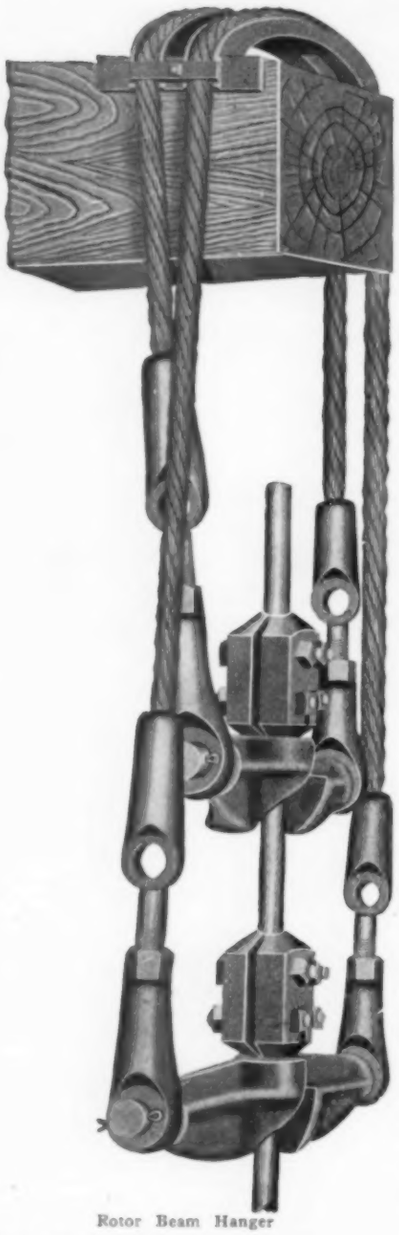
## MORAN-DWIGHT & CO.

406 W. First St.
TULSA, OKLA.

Agents for Mid-Continent Territory.



Rotor Beam Hanger

## Frick-Reid Puts Out Many New Articles During Year

During the past year, the different companies represented by Frick-Reid Supply Company, have put a number of articles of new equipment on the market. All of these have stood the test of tried experience in the fields and are now offered as equipment that will give the maximum of service.

### Rotor Beam Hanger

This rotor beam hanger is unique inasmuch as it supplies the operator with a rotor to rotate the rods and cups but also furnishes him with a powerful and satisfactory hanger for his well.

It saves time in putting the well to pumping and cuts down breaks in rods by forcing rods and working barrel to wear evenly. It also prevents rods unscrewing.

Dreadnaught Crown Block

### S. & L. Long Stroke Pumping Unit

The S. & L. Long Stroke Pumping Unit is made in two sizes, the No. 2 for holes up to 2000 feet which will give a range of four strokes up to 42 inches, and the No. 1 for holes up to 4000 feet which will give a range of strokes up to 60 inches. The pull is steady, there being no vibration or jerk in the pull rods, consequently the breakage of pull rods and sucker rods is eliminated.

Bull Dog Elevator Wrench

### Dreadnaught Straight Shot Pump

The new Dreadnaught Straight Shot Pump is handling deep rotary drilling in a most satisfactory manner. The straight shot feature on the fluid end of this pump reduces the distance through which the mud travels about one half. This particular feature alone insures a greater flow at the same steam consumption. This pump is built for 600 pounds and tested to 1000 pounds pressure.

This pump comes on steel skids instead of wooden ones and is built for the hardest kind or drilling in rotary fields or mudding in gas wells.

### Huffman Oil Saver

"The Huffman Double Packed Oil Saver" has filled a long felt want for operators in the saving of oil. The most important features of this oil saver are that, new packing rubbers can be put in without taking oil saver off the wire line, and it has rollers on top and bottom, taking the thrust of the wire line off the side of the saver and also minimizing wear on wire line and casing.

Bull Dog Rod Elevator

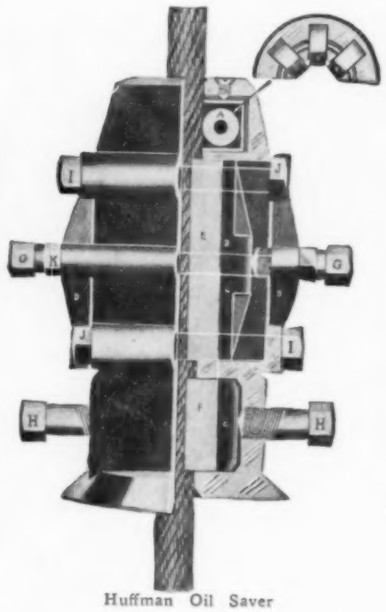
### Dreadnaught Crown Block

This Dreadnaught Crown Block is built with tight sheaves, with oil cellar boxes running on 4½-inch shafts, and the lower half is bronze bushed, the same as a car journal. It is quickly adjustable and the cap can be packed with grease and waste, making it practically dust proof, as well as proof against the loss of oil. This block weighs about 3000 pounds.

Block is built to comply with the demand of contractors for a heavy block for deep drilling.

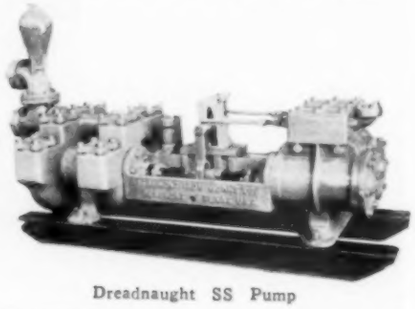
### Bull Dog Elevator

The Bull Dog Elevator is a new departure in the pulling of sucker rods. It does away with one elevator entirely and substitutes a heavy wrench that has two jaws holding both the square of the rods and the coupling. Also does away with the necessity of a sucker rod hook as wire line can be fastened directly to the bail of the elevator. The elevator has a safety device that is perfectly safe and the swivel on top has heavy bearings insuring turning under the heaviest loads. In use it can be compared to running pipe with one elevator and spider. It is strongly built and yet compact for quick handling.



Huffman Oil Saver

Further particulars on any of this equipment may be secured from any branch of Frick-Reid Supply Company.



Dreadnaught SS Pump

# OIL FIELD SPECIALTIES

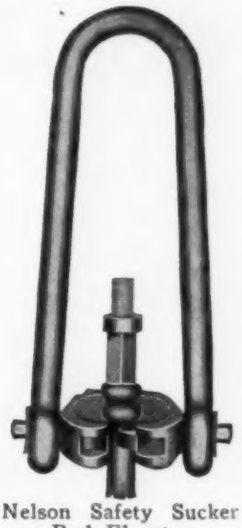
## That Practical Oil Men Use and Endorse

Standlee Tubing Packer

A new type of packer that will not destroy the rubbers when setting. This is a marked improvement over any packer now on the market. Ask for special bulletin.

Cunningham-Hite Polish Rod Hanger

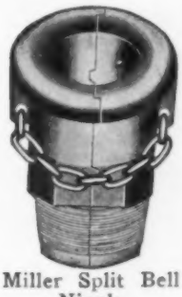
Standlee Swivel Swab



Nelson Safety Sucker Rod Elevator

Cunningham Safety Sucker Rod Elevator

Myracle Sucker Rod Socket



Miller Split Bell Nipple

Standlee Tubing Oil Saver

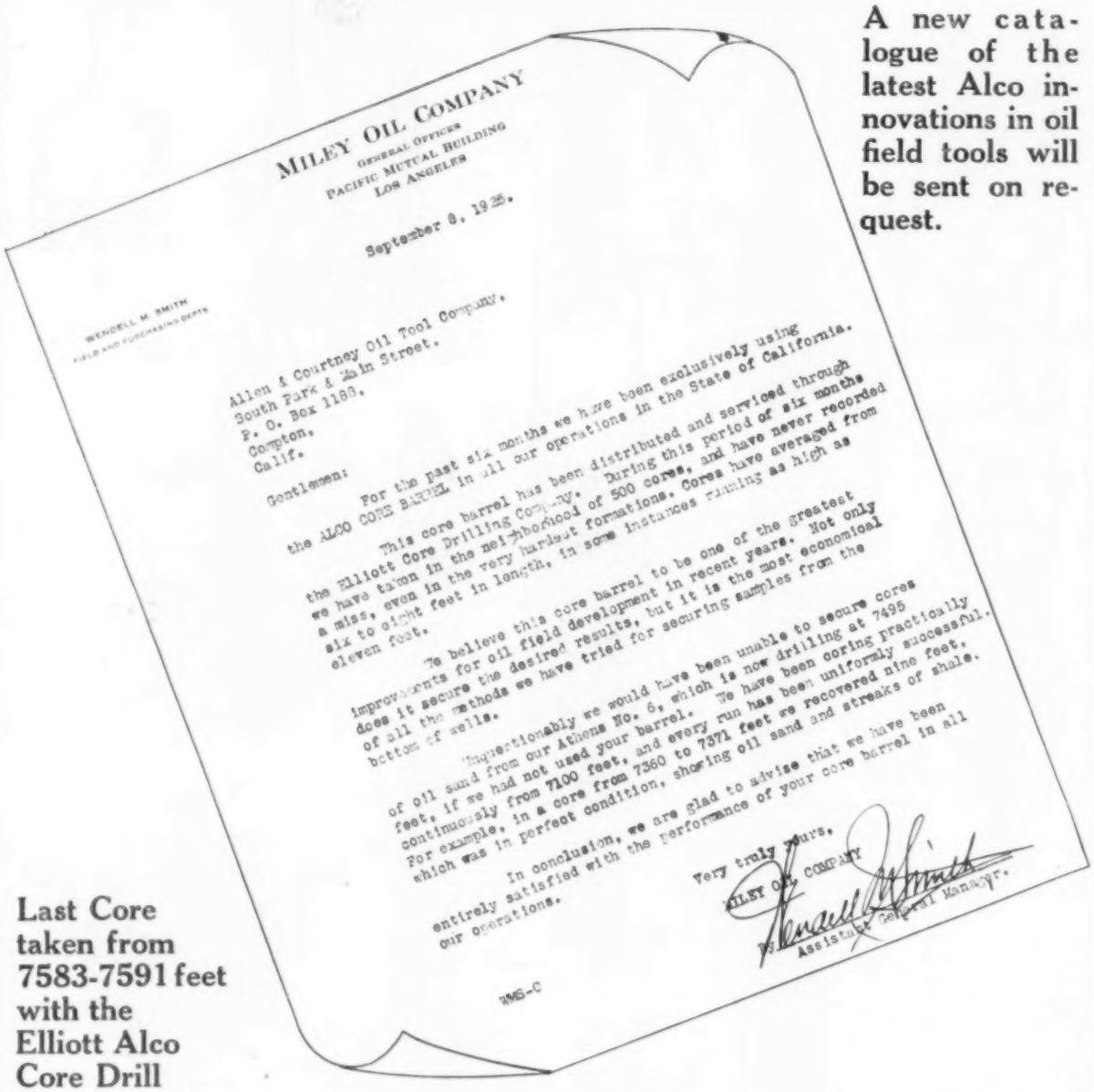
MANUFACTURED BY

**CUNNINGHAM COMPANY**

212 S. Norfolk TULSA, OKLA.

**YOU'LL FIND THEM AT YOUR SUPPLY STORE**

# 8 FEET of PERFECT CORE in ONE RUN from the BOTTOM of the WORLD'S DEEPEST HOLE



MILEY OIL COMPANY
GENERAL OFFICES
PACIFIC MUTUAL BUILDING
LOS ANGELES

September 8, 1925.

WENDELL M. SMITH
FIELD AND PURCHASING DEPTS.

Allen & Courtney Oil Tool Company,
South Park & Main Street,
P. O. Box 1180,
Compton,
Calif.

Gentlemen:

For the past six months we have been exclusively using the ALCO CORE BARREL in all our operations in the State of California.

This core barrel has been distributed and serviced through the Elliott Core Drilling Company. During this period of six months we have taken in the neighborhood of 500 cores, and have never recorded a miss, even in the very hardest formations. Cores have averaged from six to eight feet in length, in some instances running as high as eleven feet.

We believe this core barrel to be one of the greatest improvements for oil field development in recent years. Not only does it secure the desired results, but it is the most economical of all the methods we have tried for securing samples from the bottom of wells.

Unquestionably we would have been unable to secure cores of oil sand from our Athens No. 6, which is now drilling at 7495 feet, if we had not used your barrel. We have been coring practically continuously from 7100 feet, and every run has been uniformly successful. For example, in a core from 7360 to 7371 feet we recovered nine feet, which was in perfect condition, showing oil sand and streaks of shale.

In conclusion, we are glad to advise that we have been entirely satisfied with the performance of your core barrel in all our operations.

Very truly yours,
MILEY OIL COMPANY
By Wendell M. Smith
Assistant General Manager.

WMS-C

A new catalogue of the latest Alco innovations in oil field tools will be sent on request.

Last Core taken from 7583-7591 feet with the Elliott Alco Core Drill

Manufactured by

## ALLEN & COURTNEY OIL TOOL CO.

Compton, Calif.

*If It's an Alco Tool, It's Modern*

# ELLIOTT ALCO CORE DRILL

## SIZES TO FIT ALL CONDITIONS OF ROTARY DRILLING

A one piece cutter of heat treated nickel steel enables this core drill to make hole in competition with hard rock bits. The wearing surfaces can be built up economically by use of electric or acetylene welding.

The core catcher operates as readily on a core in the softest sand as one one of hard shell.

A letter to our nearest branch will bring complete information.

*Distributed by*

## ELLIOTT CORE DRILLING CO.

123 E. Third Street
**Tulsa**

902 Wright-Callender Bldg.
**Los Angeles**

3210 Harrisburg Blvd.
**Houston**

Multi-Cutr Rotary Bit

## "Multi-Cutr" Rotary Bit Is Modified Fish-Tail

A fish-tail bit in principle with multiplied efficiency is one of the distinctive features claimed for the "multi-cutr" rotary drilling bit being manufactured and sold by the Multi-Cutr Rotary Bit Company, P. O. Box 847, Kansas City, Mo. With an odd number of wings or cutters the construction tends to preclude the possibility of lateral displacement, thus insuring a round, straight hole.

"In operation even in the hardest formations the Multi-Cutr bit drills smooth and steady. The intermittent over-loading resulting from the usual bouncing and pounding of the ordinary bit in hard formation is entirely eliminated. This feature means less power required and longer life to the drill pipe and other equipment. Due to its construction, it is easily dis-assembled, sharpened, gauged and re-assembled for use. It will drill successfully most formations ordinarily negotiated with special bits," the makers claim.

"It is 'bull dog' stout and actual field tests have proven it will withstand the stress and abuse that comes from exacting field conditions."

Further information may be obtained from the manufacturers direct.

## Shaffer-Leidecker Safety Swab Has Special Features

The rubber on the Shaffer-Leidecker safety swab manufactured and sold by the Shaffer Specialty Company of Tulsa, expands from the weight of the fluid when lowered into the hole. The fluid pressure prevents passage between the rubber and the casing and thus insures a full load to be lifted. This is a distinctive feature of the swab that has been introduced by the company in both domestic and foreign fields.

The Shaffer-Leidecker safety swab offers no resistance when being lowered in the casing, the fluid passing upwardly about the rubber and also through the unobstructed opening in the mandrel. This permits the rapid lowering of the swab. When the swab is lowered to the desired depth and started upward the ball check closes and the fluid passes through the opening around the outside of the mandrel to the interior of the rubber. Should it be desired to lower the swab to the bottom of the pipe, the automatic relief valve permits the excess fluid above the swab to pass through until the spring tension is equalized by the weight of the fluid, when the valve closes, bringing the fluid above to the surface. The spring adjusting nut provides adjustment for varying the tension of the spring and controls the amount of fluid to be lifted.

Shaffer-Leidecker Swab

All connections on the swab are threaded with taps and dies, insuring interchangeable parts with clean threads of accurate pitch. Castings are of high-grade malleable iron and the tool sub is constructed of stem steel with tool sub locked to swivel and cage by means of a riveted pin. The pin joint is standard with polished thread. The ball check rests on ground reversible seat. The mandrel is of seamless steel tubing with rubber castings reinforced with seamless steel tubing collars. All parts are gauged and inspected before leaving the factory.

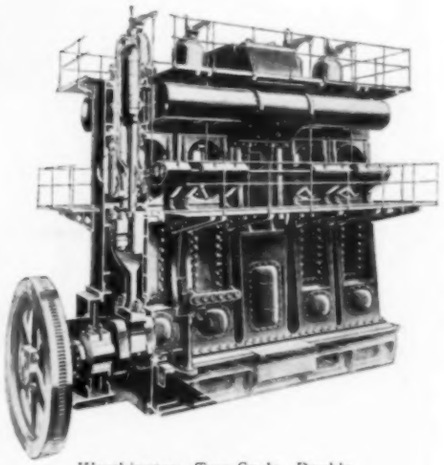
## Worthington Diesel Uses Every Stroke for Power

The Worthington Pump and Machinery Corporation has solved the problem that for so many years has been found insuperable by Diesel engine designers. It has made practicable in sizes up to 12,000 horsepower an engine that, through the use of every stroke as a power stroke, develops about three times the horsepower of a four-cycle, single-acting engine, and about double the horsepower of a two-cycle, single-acting engine of the same cylinder dimensions.

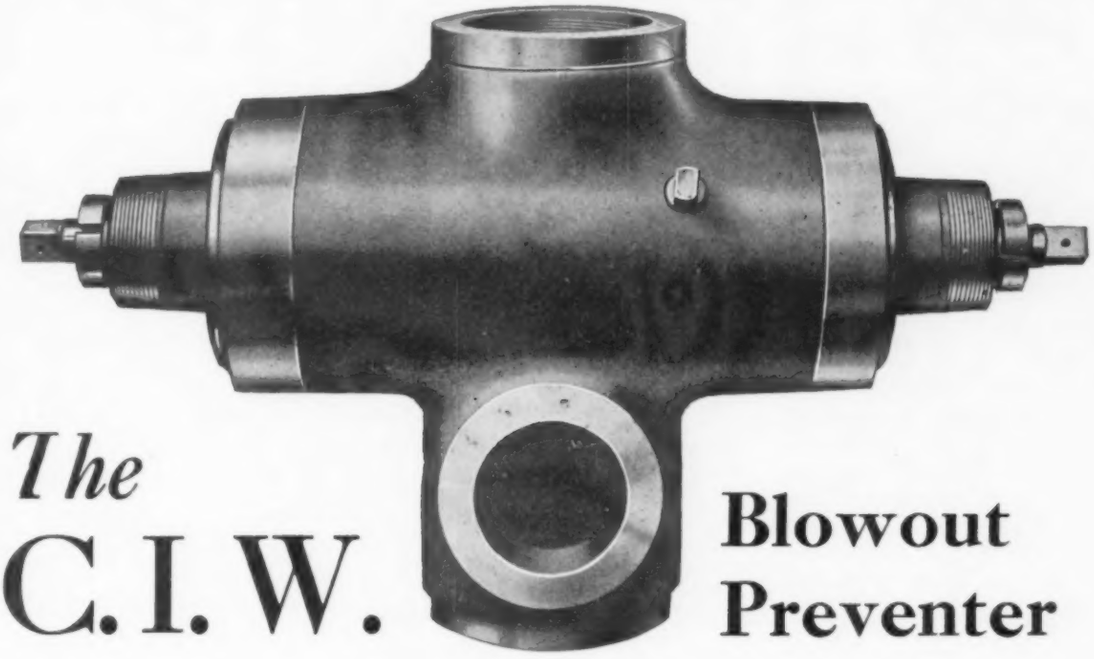
The engine is compact and occupies a reduced amount of floor space in that the work of four cylinders has been successfully concentrated into one. Maintenance is decreased as the double-acting principle requires lighter and fewer parts for a given horsepower. Owing to the intensive use of smaller running gear for a given power, the attainment of higher mechanical efficiency than has hitherto been realized by any single acting engine, is now possible.

The cylinder of forged steel, into which a cast iron liner is pressed, is the most important feature that has made the double-acting design possible. The cylinder is secured at the lower end to the cylinder base, being free to expand or contract at the upper end without varying temperatures which are encountered in combustion. This cylinder has made possible the concentration of greater power with the full use of the running gear throughout the entire cycle, and the consequent reduction of weight and size.

Further information can be obtained from Worthington Pump and Machinery Corporation, 115 Broadway, New York.



Worthington Two-Cycle Double Acting Engine



# *The* C. I. W. Blowout Preventer

## Absolutely Prevents Blowouts Where Other Precautions Fail

Master Gates, Christmas trees, and other means of controlling gas pressure are good PROVIDED the drill stem is OUT OF THE HOLE. If the drill stem is still in the hole you cannot close your well in until the drill stem and tools have been removed. This is usually impossible before the pressure has lifted all the mud laden fluid from the hole, taking the tools along with it, resulting in serious damage to well and equipment.

The Cameron Blowout Preventer on your well permits drilling operations to be carried on until the gas sand is struck, allows you to drill into it as far as the weight of mud and tools can overcome the pressure. It then can be closed around the drill stem and guaranteed to hold any pressure yet encountered in well drilling. The well can be brought in without pulling the drill stem and resetting casing.

**The C. I. W. Blowout Preventer will control the heaviest gas pressure ever encountered in oil or gas well drilling**

*Write for Prices and Specifications*

**CAMERON IRON WORKS, HOUSTON, TEXAS**

Portable Rotary Rig Company Pumping Unit

## Fuel Economy Features Portable Rotary Rig

An improved type of Portable Rotary Rig made by the Portable Rotary Rig Company of Houston, Texas, was brought out during the past year in order to adapt gasoline power to the standard rotary rigs which are now using steam, thereby enabling the operator to use gasoline or natural gas in the motor. This rig is particularly adaptable and shows its greatest savings when used in connection with the wildcat work, as the operating cost of this rig is on an average approximately fifty per cent of what steam would be in proven territory, according to its manufacturers.

The new Portable Rotary Rigs are being used by large operators in the Gulf Coast section, Mexico, Venezuela and Ecuador.

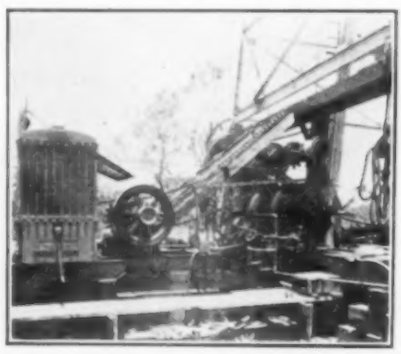
The rig consists of one draw works power unit which is set up complete on one structural steel frame and placed where the steam engine is usually located. It is made up of one 100-horsepower four cylinder Waukesha gasoline-gas engine, equipped with reduction gear and one heavy oil bath type reversible clutch, all mounted on a steel frame.

The pump unit consists of a 100-horsepower four cylinder four cycle Waukesha gasoline-gas engine, equipped with reduction gear, duplex power pump 6¾-inch by 14-inch stroke, 1000 pounds maximum pressure, together with necessary sprockets and driving chains, all of which is mounted on a heavy structural steel frame. In setting up the rig it is only necessary to connect the suction and discharge lines to pump.

It is not necessary to disassemble any parts of the draw works power unit or the pump unit in moving, which accounts for the time saved in setting up and handling the rig in general.

A rig of the above type is adaptable for use in connection with all of the heaviest types of draw works and rotaries manufactured by the various supply companies, and is capable of drilling wells to a maximum depth of 4000 feet.

Further information can be had from the company.



Portable Rotary Rig Company Drawworks No. 5

## Reschke Pump Unit Needs Only Small Engine Power

A compact, sturdy unit pumping plant has been perfected by William F. Reschke of the Reschke Machine Works Company of Wichita, Kansas, for use on shallow and light wells up to 2,500 feet in depth. It is known as the Reschke unit pumping plant and is capable of producing 100,000 foot pounds per minute with six horsepower engine.

The pumping unit is equipped with either six or eight horsepower engine or motor and is sturdy enough to stand the exceptionally heavy load. The pumping principle is produced by eccentric gears or a constant toggle motion in that a direct stroke of 30 inches is produced by the gears with applied power never more than 7½ inches off center. The pumper is designed for different length strokes as desired up to five feet. The unit is exceptionally heavy built and all rotating bearings are roller bearings. The framework is built entire of structural steel so designed and trussed that the machine may be supported at three points and yet stand true and not cause bearings to bind.

The Reschke unit pumping plant affords a straight up and down motion and eccentric gears are so regulated as to give a slow stop and start. This is one of the outstanding features of the machine which has already been given a thorough test in the field and has been found capable of pumping a 2500-foot well with a six horsepower engine, 10-28 inch strokes, actually requiring 3½ horsepower.

The pumper also is equipped with pulling drum of ample power for rods and tubing at a small additional cost.

Further information may be obtained from the manufacturers direct.

## Bradford Motor Works Offers "Security Valves"

Bradford Motor Works, Bradford, Pennsylvania, manufacturers of oil well supplies, is now marketing a new valve, sold under the trade name of "Security Valves."

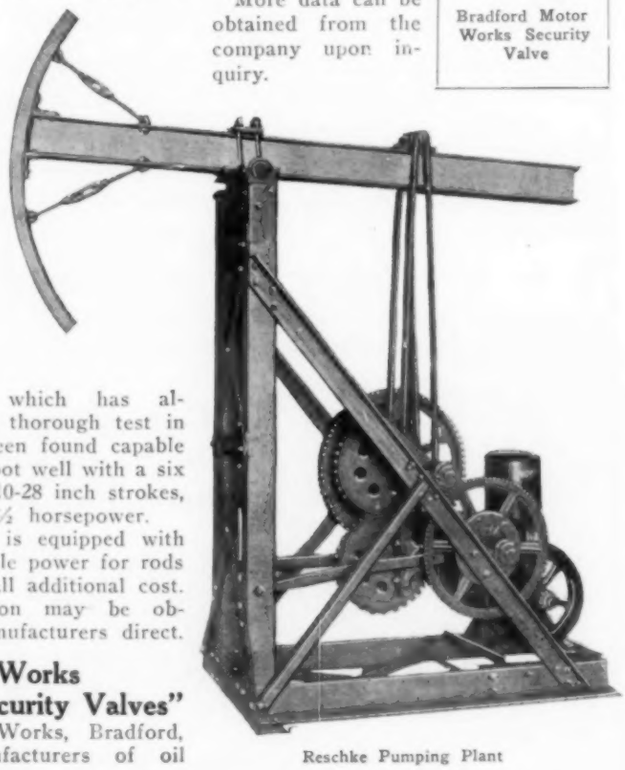
In the security valve the body and bottom are of one-piece construction and the cups and cup rings are put on from the top. The hexagon cup nut is screwed down to the desired fit, and the upper connection with ball and seat and crown is then shouldered against the cup nut.

The cups securely locked in position will wear longer and will not work loose and come off the valve.

Perforated crowns can be furnished if desired, also crowns with fluted extension for fishing. The valve is regularly furnished with all parts of steel, but brass rings and crowns can be used where preferable. It is also possible to furnish a lock ring under the crown where difficulty is experienced from crowns working loose.

More data can be obtained from the company upon inquiry.

Bradford Motor Works Security Valve



Reschke Pumping Plant

# PORTABLE ROTARY RIGS

1200 Foot Portable Rig

Combine all worth while features that spell economy, practicability and speed in drilling wells.

—o—

Can be operated where water is so scarce that drilling with steam would be an impossibility.

—o—

No boilers.

—o—

No steam engines.

—o—

Can be moved from one location to another and set up with a minimum of time and expense.

—o—

They have a proven record of dependable service in the oil fields of Texas, Mexico and Venezuela.

—o—

Sizes for all depths from 1200 to 3500 feet. Operated by Waukesha Ricardo Head Oil Field Power Units.

—o—

For further details address

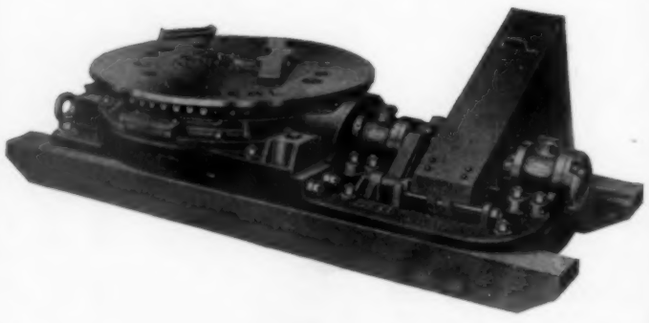
Rig Set Up Complete

3500 Foot Heavy Type Rig

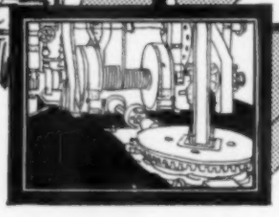
**PORTABLE ROTARY RIG CO., Inc.**

**HOUSTON, TEXAS**

# IDEAL ROTARIES



IDEAL UNIVERSAL
"Make-Up" and "Break-Out"
ROTARY DRILLING MACHINE



IDEAL UNIVERSAL ROTARIES

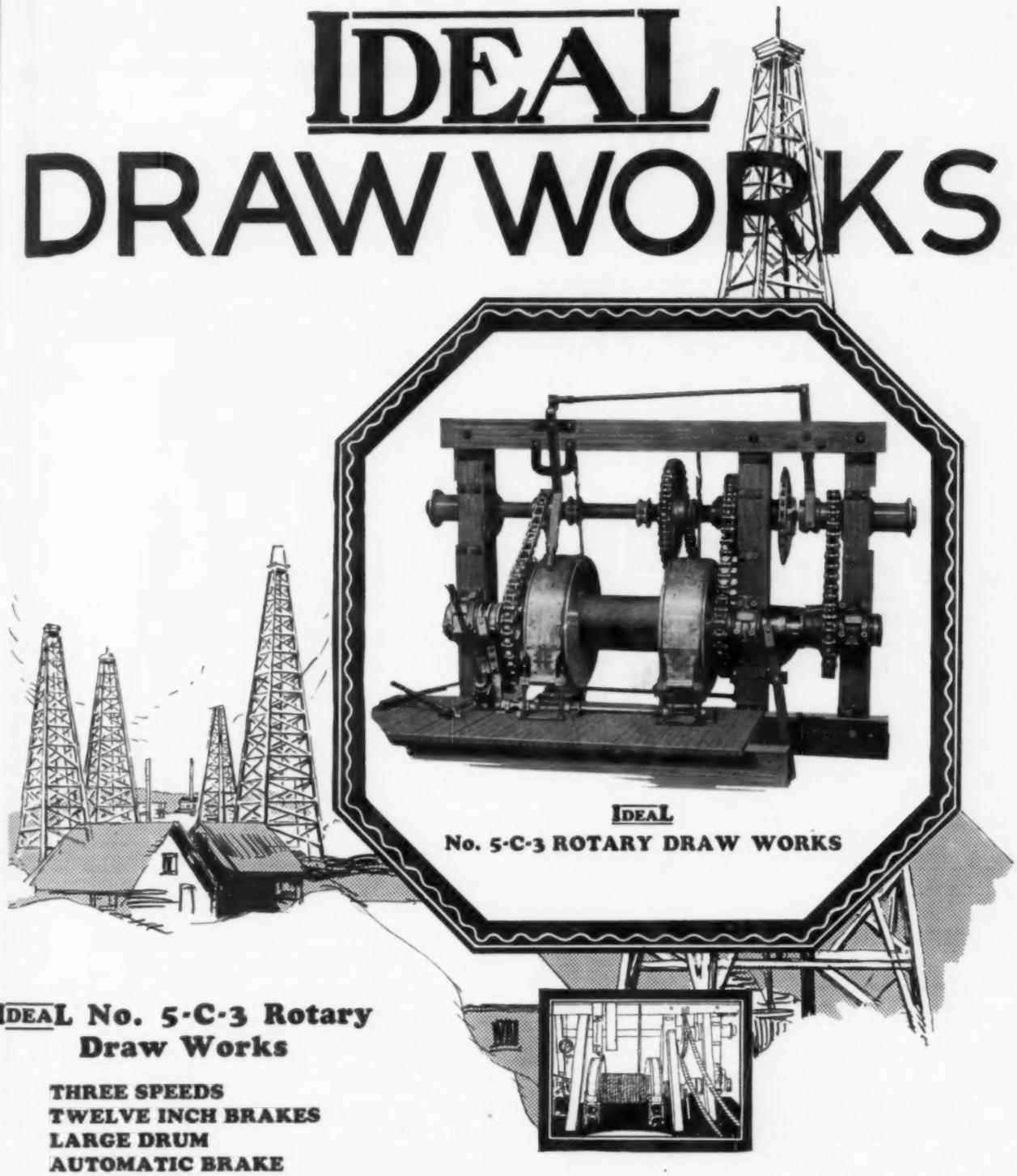
18 1-2 — 20 INCH
20 — 24 INCH

ALL STEEL CONSTRUCTION

THE NATIONAL SUPPLY COMPANIES

*Say you saw it in The OIL WEEKLY*

# IDEAL DRAW WORKS



IDEAL
No. 5-C-3 ROTARY DRAW WORKS

## IDEAL No. 5-C-3 Rotary Draw Works

THREE SPEEDS
TWELVE INCH BRAKES
LARGE DRUM
AUTOMATIC BRAKE EQUALIZER

**The Latest Development In Modern Draw Works**

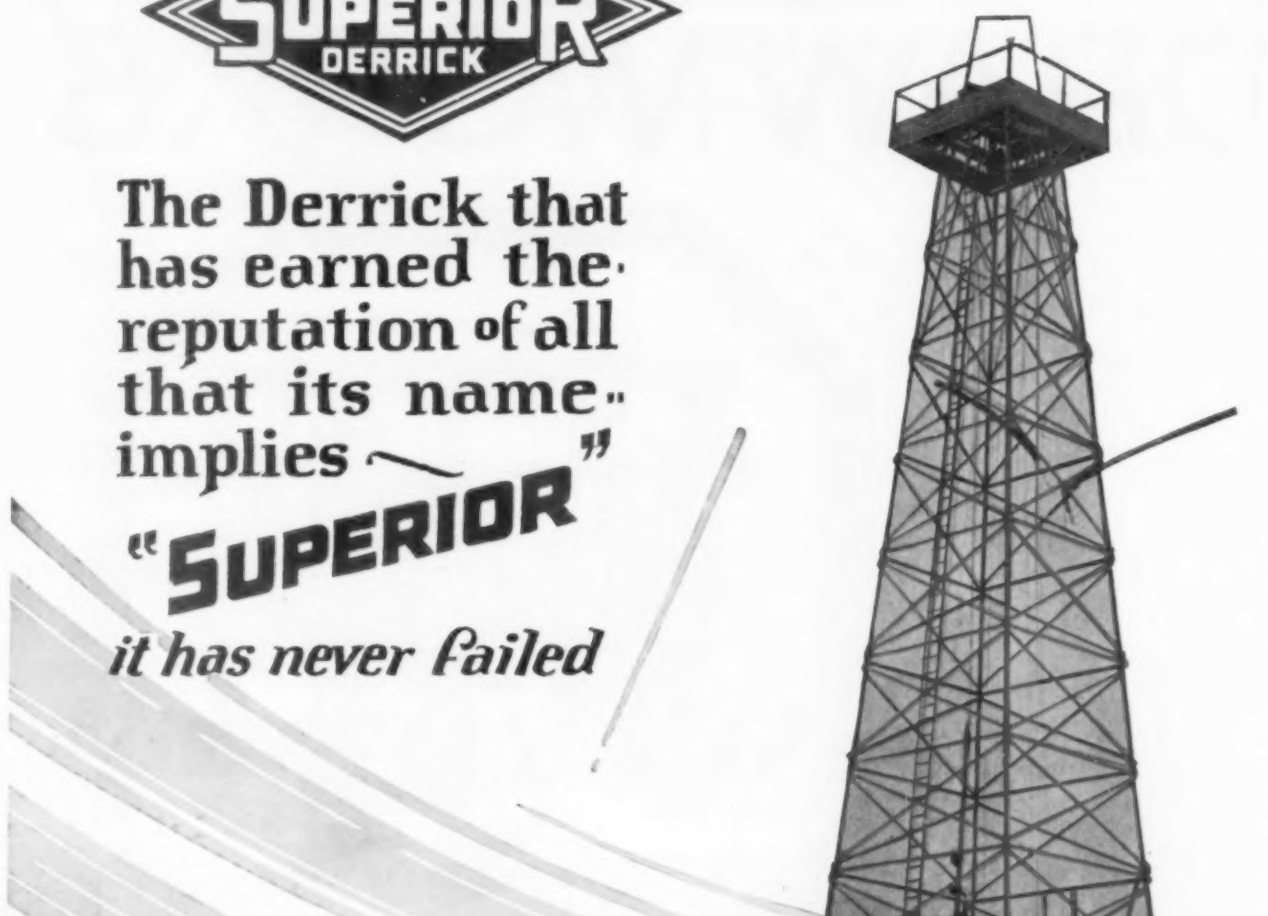
## THE NATIONAL SUPPLY COMPANIES

*Say you saw it in The OIL WEEKLY*

STEEL SUPERIOR DERRICK

The Derrick that has earned the reputation of all that its name implies — "SUPERIOR"

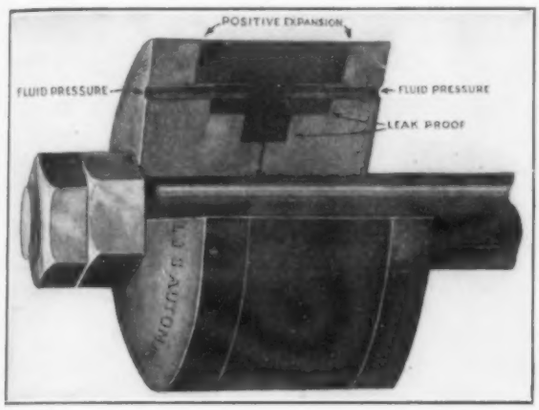
*it has never failed*



WRIGHTSMAN PETROLEUM CO. - ATLANTIC OIL PRODUCING
SEC. 19-25-8 — OSAGE COUNTY, OKLA.

## Automatic Expansion Piston For Slush Pumps Is Offered

Operators will be interested in knowing about an automatic expansion piston for slush pumps, being offered the oil supply trade by the California Oil Tool Company, Torrance and Athens, California




L. J. S. Automatic Slush Pump Piston

A detailed account of the operation of the piston as furnished by the company, follows: "The four small holes drilled in each half of the metal portion of the piston known respectively as the piston follower and the piston head, are the ports which the fluid under pressure exerted in the pump, passes through in entering the groove that is molded into the rubber sleeve.

Action of the fluid pressure passing through the ports causes the rubber sleeve to expand snugly against the walls of the water cylinder pump liner, thus making a tight joint and preventing the fluid from leaking by the piston.

The pulsating action described above takes place on both the forward and backward stroke of the piston while in operation. Thus all wear on the rubber sleeve is automatically offset by the fluid pressure exerting itself against this rubber sleeve on every stroke of the pump. This insures the user a greater pump efficiency, fewer replacements of worn parts, and a noticeable difference in the general upkeep cost of the unit where the piston is used, according to the manufacturers.

More details will be furnished by the California Oil Tool Company, at either Torrance or Athens, California.

## Gas Generator Makes Valuable Lease Unit

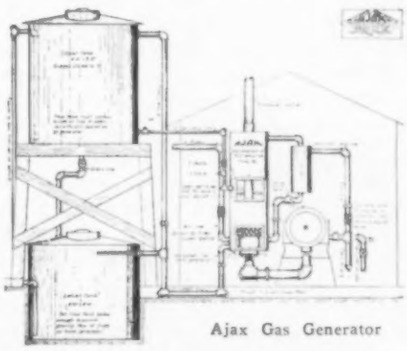
The Ajax gas generator, a gas-making unit, furnishes off crude oil a dependable gas for the continuous running of gas engine equipment on producing properties where a dependable gas is not at all times available for the necessary operation of the pumping powers to insure full lease production.

In operation, approximately ten barrels of crude oil is passed through the generator each 24-hour operating period by gravity, entering at the oil inlet, where it then filters through a porous filler which is heated by the exhaust from the engine and leaves through the oil outlet. This operation being continuous, no crude remains in the generator, and by the method the lighter volatile vapors are released, the crude oil handled being returned to the stock tank showing no appreciable loss in volume.

These vapors, then combined with air pulled through the generator, are delivered to the engine by its intake suction stroke, and a proper firing mixture completed at the engine by adjustment of the engine's air-mixing valve.

The Ajax gas generator is particularly adaptable in districts where an insufficient natural, casinghead or residue gas delivery is available, and by the installation full lease operations is insured on practically a no-fuel cost basis.

Further data and bulletins covering the Ajax gas generator will be forwarded by the Baird Supply Company, Tulsa, Oklahoma, on request.



Ajax Gas Generator

## Improved Efficiency in Jones Oil Well Reamer

Several important changes have been made by the Jones Oil Well Reamer Company of Tulsa, Oklahoma, manufacturers of the well-known Jones oil well reamer, which is meeting with success throughout the country.

The new pointed end which is now appearing on all reamer arms is a distinct improvement and gives the reamer greater cutting efficiency as it swings against the wall of the oil sand or shot-hole, and greatly shortens the time previously taken in reaming. Reaming is commenced at the bottom of the sand, cutting up at the rate of 1½ feet per hour. It swings with tremendous force, revolving at the rate of approximately 100 revolutions per minute, all cutting points in contact with the sand knocking down all paraffin, corrosion, burnt and loose sand, and opening up a large seepage area, thereby substantially increasing production and eliminating sand troubles.

Jones Oil Well Reamer

The reamer can be run on any rig, clean-out machine, or tractor, and operates on bottom of tubing from any well. Tubing is carried on a large ball-bearing swivel, which is hung on tubing line hook over the derrick or pulling machine.

Further information can be obtained from the company by sending for their folder, "When Science Takes a Whirl at an Oil Well."

## M. B. Skinner Company Valve Reseating Tool

For reseating all flat and taper seat, globe or angle valves, the M. B. Skinner Company offers the Skinner valve reseating tool.

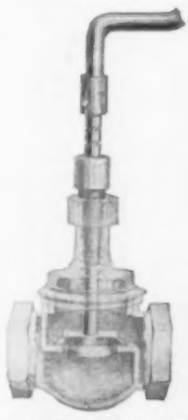
This tool lines up through the bonnet, insuring an accurate cut. Instead of files or grinders, it is equipped with "Skinner" bar-type shear cutters. Each cutter has three parallel blades—an important point—as the two outside blades naturally produce an offset or shaving cut.

The Skinner reseating tool fits all globe valves. There is no difficulty in reseating renewable seat or regrinding valves.

High-grade steel used in making the "Skinner," and each part is accurately machined and polished, and the cutters skillfully hardened.

In operating the tool, very little pressure is used, and as bit brace power gives a full swing cut, there is practically no wear on the cutters. The manufacturer states that they stay sharp for years.

Additional data can be had from the M. B. Skinner Company, 558-562 Washington Boulevard, Chicago, Illinois.



Skinner Valve Reseating Tool

## New Trip Method Latest For Sucker Rod Socket

The Leonard Sucker Rod Socket manufactured in both "bulldog" and combination "trip and bulldog" types by the Baird Tool Works, Tulsa, Oklahoma, brings out a new trip method for the catch of double box or pin couplings, pin shanks or broken rod fishing jobs in pumping wells.

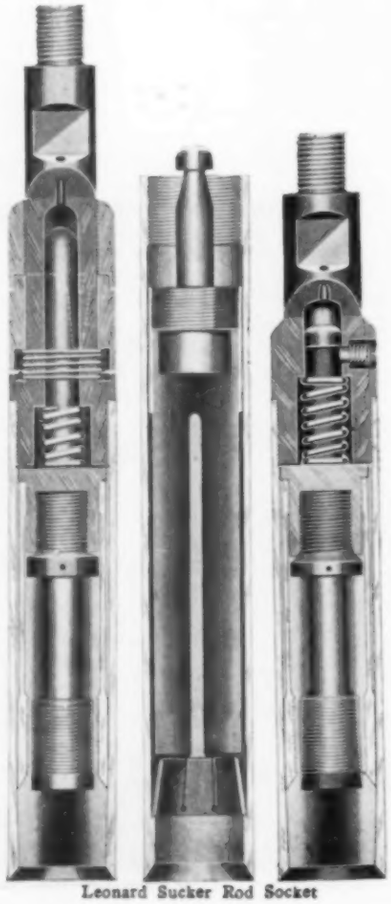
The socket is run in the hole with the slips set for catch, which are tripped off in the barrel by reverse spring action only after the piece fished for has fully entered the socket. This does away with the necessity for drive down, screw on or friction holds to bring the rods fished for out of the hole.

When brought out, the socket is easily released off the rods by a down thrust on the tool which resets the slips in the barrel and the tool is ready for the next fishing job.

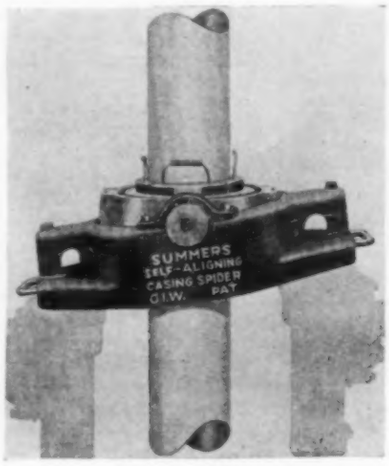
The socket is furnished with three box or coupling and rod slips, the set ordinarily being sufficient to take care of any kind of a sucker rod fishing job on the lease. Where 19/16-inch and 1⅝-inch sucker rod boxes or couplings are used in 2-inch tubing, a special barrel can be furnished for use in connection with the 2-inch "bulldog" for this work.

In deep-hole territory the re-running of rods in the hole for fishing can be eliminated by putting the socket in on a wire line which speeds up the job and saves both production and labor.

Further information and bulletins can be had by addressing the Baird Tool Works, Tulsa, Oklahoma.



Leonard Sucker Rod Socket




## Side Strain on Casing Avoided With Spider

A number of outstanding advantages is claimed by the manufacturers of the Summers self-aligning casing spider being made by the Oklahoma Iron Works of Tulsa, and sold through the International Supply Company of Tulsa.

The Summers self-aligning casing spider has been primarily designed so as to eliminate all side strain on the casing while jacks are being used. It is so constructed that should one jack raise higher than the other one, the self-aligning feature will overcome this unevenness, thus preventing side-strain and kinks in the casing.

Made of steel, the Summers spider is one of the self-swiveling type, thus giving the tool a wide range of uses in all kinds of field work.

The Oklahoma Iron Works, Tulsa, Oklahoma, will supply more information on request.

## Rock Island Pumping Units Have Recent Improvements

Designed for oil field work by practical oil men, the Rock Island pumping units are finding a big demand. Units 51 and 56 have been improved recently.

These outfits operate on either natural gas or gasoline. They will run indefinitely under the light load of continuous pumping, and will stand the more severe strain of pulling rods and tubing, bailing or handling a string of tools.

Control levers are mounted on the platform so that the operator can watch the work and still have complete control of the engine.

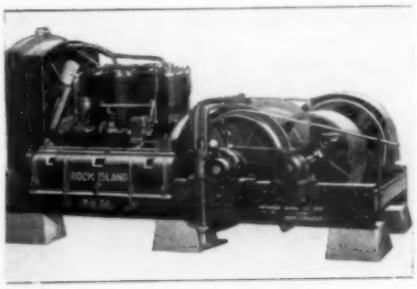
Both units are equipped with Waukesha motors.

Friction transmission is used. The fibre on the flywheel of the motor is the driving member. The driven members are two large metal discs pressed on an alloy steel shaft—one on each side of the friction fibre. Forward or reverse motion is obtained by a slight sidewise shifting of the disc shaft, by means of the contact lever.

The speed of the belt pulley is increased by sliding the motor backward so that the fibre travels on a smaller diameter of the disc. This wide range of speed made possible by shifting the position of the motor saves much time, for the operator can increase the speed as the load decreases, and continually work to the power of the engine.

The engine is intended to be set in an engine house in the customary manner, and is under perfect control of the operator on the well platform.

Further details will be suplpied by the Rock Island Plow Company, Rock Island, Illinois.




Rock Island Power Unit 56

## Extra Heavy Gate Valve For High Pressure Lines

The Ohio Injector Company, Wadsworth, Ohio, is recommending its "O. I. C." Extra Heavy Gate Valve for use on high pressure lines. Leading oil companies have reported excellent service from these valves since their introduction a short time ago.

The valve is made of semi-steel for 250 pounds steam pressure and has been tested under 800 pounds hydraulic pressure. It will withstand a steam and superheat temperature of over 500 degrees.

More complete information will be sent by the company upon inquiry. Any branch of the Continental Supply Company will give details about the valve.

Ohio Injector Company Iron Body Valve

# Crowned King of Temper Screws

*by the drillers of every field*

# Burns Tubular Temper Screw

*Sold by all supply stores*

**Manufactured by**

# BURNS TOOL CO.

**OKMULGEE . . . . . OKLAHOMA**

*Say you saw it in The OIL WEEKLY*

Steel Warehouse Department

Immediate Shipment at Standard Warehouse Prices

Oil Refinery Tankage

Materials Carried in Stock

**Crude and Steam Stills**
**Condenser Boxes**
**Agitators, Towers**
**Absorbers**
**Acid Tanks, Etc., Etc.**

**Steel Plates and Sheet Iron**
**Angles, Bars, Floor Plates**
**Channel Iron, I-Beams,**
**Boiler Tubes, Rivets**
**Smith Coal and Coke**

With modern manufacturing facilities we are equipped to turn out all kinds of riveted or welded tank work as well as refinery equipment of every description. Our location in the heart of the Oil Country enables us to make shipments promptly.

We also manufacture oil country specialties and manufacture and erect sectional steel buildings for oil industry use. This Department is efficiently equipped to render prompt service on short notice.

*Manufacturers - Engineers - Erectors*

# Pioneer Tank & Boiler Company

P. O. Box 1926 Tulsa, Oklahoma

Let Us Submit Estimates on All Your Steel Plate Requirements

Write or Wire for Our Prices. They May Save You Money

*Say you saw it in The OIL WEEKLY*

# LIGHTNING LINE

## of Oil Field Equipment

*Manufactured by*

## KANSAS CITY HAY PRESS COMPANY, Kansas City, Mo.

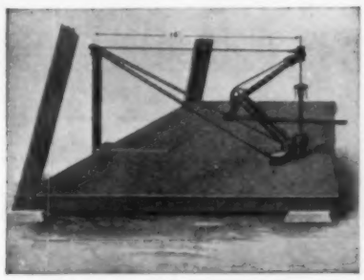
Casing Head with Common Top

Type S. Lubricator Stuffing Box

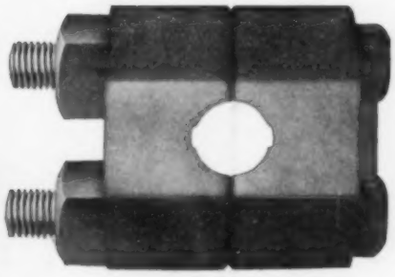
Type T. S. Stuffing Box
The real lubricator

Lightning Wire Line
Beam Hanger

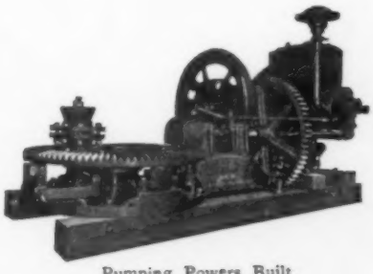
Handles a Stroke Seven
Feet Long



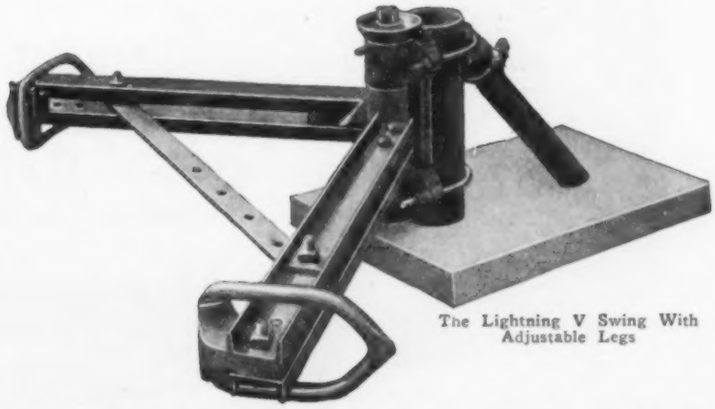
Long Stroke Pumping Jack



Bull Dog Polish Rod Clamps



Pumping Powers Built
in Three Sizes



The Lightning V Swing With
Adjustable Legs

*Say you saw it in The OIL WEEKLY*

**A long established . . . complete coring service**

# AVAILABLE EVERYWHERE

CORING has been thoroughly demonstrated as the logical and surest way of *eliminating* uncertainty in rotary drilling. With its increasing popularity among operators the need has become evident for a stable, established company to render a trustworthy, result getting, coring service. ¶To fill this need, the services of trained Spengler core drillers equipped with the famous Spengler Core Barrel, etc., are available everywhere. We are prepared to immediately send our men and equipment wherever sufficient business justifies such action. ¶Of course, if you prefer your own men to operate the Spengler barrel, it can be bought or rented. In either case, complete information [including a trial demonstration if desired] is available through our representatives at the Tulsa exposition.

*Don't fail to see the cores taken at great depths, displayed in the Spengler exhibit. Can be studied through magnifying glasses - - educational and interesting. Remember - - coring headquarters are*

**SPACE — 30 —**

**WEST VIRGINIA BUILDING**

## Spengler Core Drilling Company

MAIN OFFICE & PLANT: 12991 HARBOR BOULEVARD · STATION H · LOS ANGELES, CALIFORNIA

## Collapsible Features in Drills and Core Barrels

The Standard collapsible rotary drill and core barrel, invented and manufactured by O. M. Carter, offices 206-7-8 Scanlan Building, Houston, was placed on the market early in 1925, when these products, after several years of effort, were completed and tested with satisfaction.

This new drill eliminates tool joints and prevents scarifying the hole, prevents bridging over and cave-ins, and also keeps boulders from falling into the hole. The big feature of the rotary drill is that it prevents the necessity for withdrawing the drill stem from the hole until the hole has been completed.

Collapsible Rotary Drill and Core Barrel

The drill is attached to a cable and lowered inside the drill stem to the bottom of the hole, where it expands to the required diameter, and is securely locked in that position. The cable can not be withdrawn until this is accomplished.

The value of the collapsible feature of the new drill is seen in the simple work of bringing dull cutters out of the hole for renewal. Such action does not require the drill stem to be brought out. A lifting tool is lowered by cable inside the drill stem and grips the top of the drill, and a pull upward collapses the cutters and brings them to the surface.

The drill is very simple in construction and is made of the best steel used by manufacturers for the highest grade products. The quality of the drill makes it successfully resist any impacts from boulders extending into the hole, such as occasional twist off of a drill stem. The loose cutters are made of steel manufactured for this drill and are scientifically heat-treated to secure a uniformity in hardness.

The cutters of the new drill are arranged to produce a cone, extending upward from the bottom of the hole, which tends to keep a straight hole.

O. M. Carter, Scanlan Building, Houston, Texas, will give more information upon inquiry.

## Special Attention to Bearings in New Engine

On the job, Alamo engines give service. This is the way the Alamo Engine Company, Hillsdale, Michigan, describes its products, and special emphasis is placed on the new two-cylinder auto type engine.

In this engine all parts are readily accessible. By removing the bottom plate of the engine, all main bearings may be adjusted with perfect ease, also the pistons and rings may be removed and replaced.

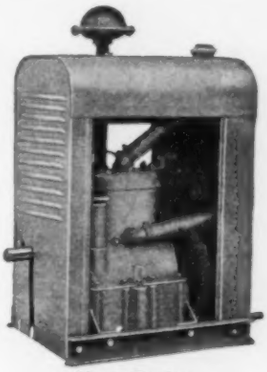
As the life of the engine is dependent upon the life of its bearings, great care has been given to this feature of the Alamo Auto type engine. Two Timken Roller Bearings are used on the drive end of the cam shaft. All other main bearings are die-cast bronze-backed. All bearings are adjustable, and all bushings are interchangeable.

In order that all bearings may have perfect lubrication, a combination positive oil feed and splash system is used. Oil is pumped directly from the lower crank case to all main bearings and to oil troughs for the connecting rod bearings. Each connecting rod has a separate oil trough, so that perfect lubrication is supplied at all times whether the engine is level or sets on an angle.

The timing of this engine is extremely simple, the ignition being timed through the magento coupling, which is very accessible, the valves being set through adjustable tappets.

To further carry out the desire for simplicity and accessibility, a special fly ball governor with an external adjustment was designed for this engine, which enables the operator to regulate the speed of the engine while his equipment is in operation.

Complete information on the engine will be mailed upon inquiry to the company.



Alamo Engine

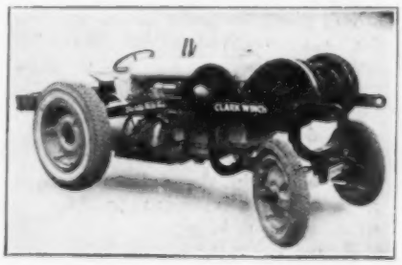
## Clark Winch on Fordson Handles 2500-Foot Wells

The improved Clark winch for Fordson tractors is recommended by Clark Machine Company, Wichita Falls, Texas, for pulling rods, tubing and bailing wells up to a depth of 2500 feet. By the use of a special split sprocket in drum core, and driving to the bull wheel on the derrick, wells up to 3500 feet deep may be pulled with ease.

By the use of the Clark patented front extension, all excess weight is removed from the front wheels and placed on the heavy frame and rear wheels, increasing traction and prolonging the life of the front wheels.

A high speed attachment is provided to use with the Clark winch, which doubles the speed of the winch drum without increasing the speed of the motor. A special chain reverse is also used for reversing the winch drum, where the work in hand demands a reverse.

Complete information and catalogs can be secured by writing to Clark Machine Company, Wichita Falls, Texas.

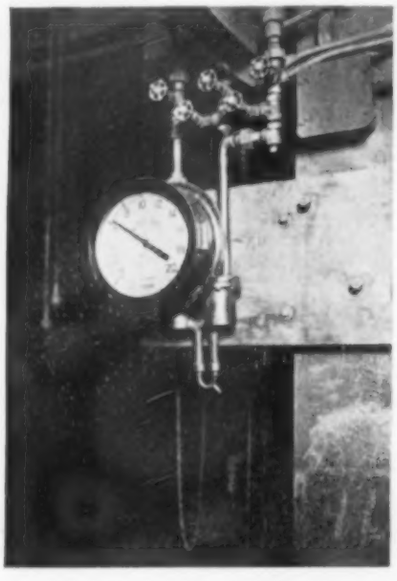


Clark Tractor Winch

## Foxboro Offers New Liquid Level Gauge for Boilers

Of special interest to the oil industry is the announcement of a new liquid level gauge, being offered by the Foxboro Company, Foxboro, Massachusetts.

This instrument, made in both the indicating and recording models, is designed to give accurate readings (and,



Foxboro Liquid Level Gauge

in the case of the recorder, an accurate record) of the level of a liquid under pressure, as a boiler or a pressure type still.

The Foxboro liquid level gauge (pressure type) operates by the differences in head between maximum high water and any intermediate point. The fundamental principle is that of the well-known mercury float type differential mechanism, in which the difference of pressure on each leg of a mercury U-tube causes a deflection of the mercury, actuating the pen arm through the rise and fall of the float. This float is connected to the pen through a patented pressure-tight, non-corrosive, frictionless bearing.

Applied to a boiler, this Foxboro level gauge gives an accurate record of the level maintained in each unit, recording erratic boiler feed, surging and other boiler level ills. The indicating model places in front of the water tender an accurate indication of the water level, something he can not get from a gauge glass placed away in an ill-lighted corner far above the boiler room floor. On stills it eliminates the test cocks for determination of the liquid level in the still, a great step ahead in the efficient production of petroleum products.

Additional information can be had upon application to the company.

## Climax Power Unit Comes Ready for Field Service

A complete self-contained power unit, ready for service in the field, is manufactured by the Climax Engineering Company, Clinton, Iowa.

The outfit consists of a Climax R6U 6-cylinder six by seven gasoline engine, and a heavy-duty disc clutch, all enclosed in a steel plate housing with removable sides. The engine is mounted on a hot-riveted structural steel frame with lower side rails turned up at each end to form runners for ease in skidding the power unit about.

Holes are placed in each end of the runners for attaching chain hooks or ropes. Two large eye bolts are mounted on each side of the frame for attaching the turnbuckles which hold the unit in place an the heavy timber sub-frame or skids.

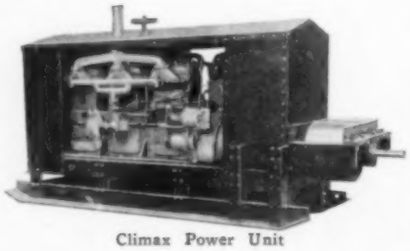
The engine is equipped with an electrical starting motor, generator, 150 ampere hour battery, air cleaner, carburetor, built-in governor, with "telegraphic" or distant control line, water pump, vacuum feed gasoline tank, and connections for a cooling water tank.

A paper faced drive pulley 17 inches in diameter, with 13-inch face is carried on a separate drive shaft, running in self-aligned ball bearings, and on which there is an extension for a forge drive pulley.

The power shaft is connected to the engine by a flexible coupling, thus eliminating any binding or strain.

Side doors of the housing which encloses the engine are removable and can be closed and completely protected by two padlocks, leaving only the pulley and starting crank outside the hood.

More complete information can be secured by writing the company.



Climax Power Unit

## Small Generator for Acetylene Available

A small generator for producing acetylene at low pressure for welding and cutting has recently been developed by the Oxweld Acetylene Company, 30 East Forty-Second Street, New York. This supplements a line of larger generators, a great many of which are used to supply pipe lines in shops where much cutting and welding is done.

The new generator, which takes 35 pounds of carbide at one charge, can be transported readily from place to

Oxweld Portable Generator

place, thus providing a portable supply of generated acetylene gas. Empty, the generator weighs only 210 pounds.

An entirely new principle of feed control is used which might be called a "heavier-than-water" float. A vertical partition, extending nearly to the bottom into a water seal, divides the generator shell. One side is gas tight and contains the carbide hopper at the top. The upper part of the other side contains gas regulating and protective devices, and an automatic carbide feed control. Generation of the first acetylene causes water to rise on this side of the partition high enough to all but submerge a panful of water, hung to a control lever. This pan normally acts as a weight acting counter to a spring, but as the water rises about it, its apparent weight is diminished and the carbide hopper valve is closed by the action of the spring. As acetylene is drawn off, water rises in the gas compartment and correspondingly lowers under the float, relieves some of the buoyancy under the water pan, which, gathering weight with the receding water, depresses the spring and allows a small amount of carbide to drip into the generator, and restore equilibrium conditions.

Because of its low center of gravity, the generator rights itself when tilted at an agle of 30 degrees. It works perfectly at an inclination of upward of 10 degrees. No adverse effects result if a generator while in operation is knocked over. Nearly all fittings are enclosed in the cylindrical shell, and there is little, if anything, projecting which may be injured by a fall on a concrete pavement.

This generator has been submitted to the Underwriters' Laboratories, Inc., and has been listed by them as an acceptable device for installation on insured premises.

More information can be secured from the company.



OCTO
Tulsa, Oklahoma

## Shaffer-Leidecker Safety Swab

Automatic unloading device governs amount of fluid you can lift.

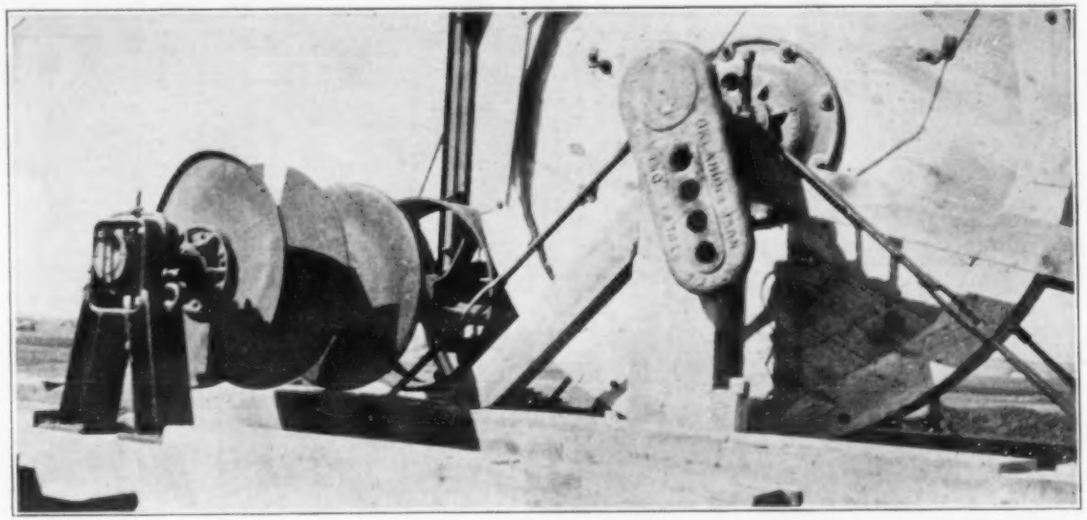
Rubber is in action only when lifting fluid, longer life rubbers.

Swivel in cage ensures less wear on lines and maximum efficiency of rubbers.

Acts as packer if well starts to flow while running as fluid passes thru mandrel to ball and out.

You can swab rotary wells and in different weight casing successfully.

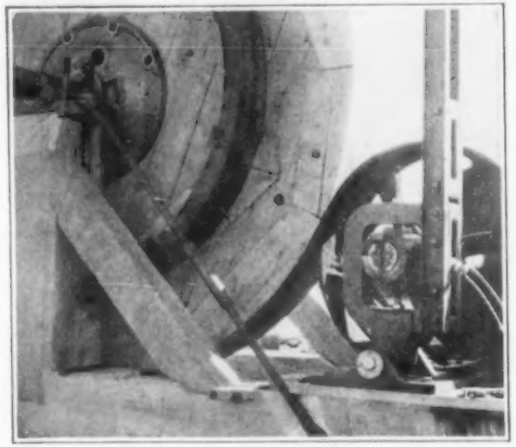
## Shaffer Almetal Sand Reel Support



One of the first Shaffer Almetal sand Reel Supports installed has been used on 30 wells covering a period of 5 years of continued service with an outlay of only $46.00 for repairs and maintenance.

With the low initial cost and long service possible, this device has no equal.

No chains, gears or clutches to wear out and add complication to your equipment.



Tail and Knuckle Post of Walk-Side Reel Mounted on Support

*New complete fully illustrated and descriptive catalogue of the Shaffer Products now ready for distribution. Copy will be promptly sent on request.*

Manufactured by

**The Shaffer Specialty Company**

113 South Denver Avenue Phone 7271

Tulsa, Oklahoma


*Say you saw it in The OIL WEEKLY*

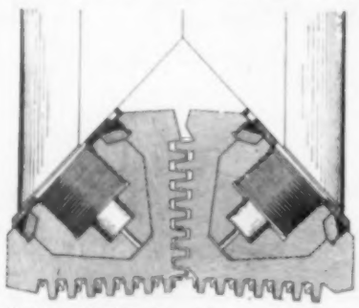
## New Hughes Cone Adapted For Medium Hard Drilling

The Hughes Tool Company has developed a new form of cone which has proven successful in the Texas, Oklahoma, Arkansas and Mexican oil fields. While this new type of cutter is not designed to supplant the regular Hughes type of hard rock cone, nevertheless it has a field of its own in medium hard and gummy formations often encountered in the drilling of rotary oil wells.

Hughes Rock Bit Showing How Cones Mesh

This new type of cone has been named "The Self Cleaning Cone" because the teeth are so designed that they clean each other of gummy formation while rotating. The teeth on each cone, being formed in concentric circles, are so spaced that they intermesh as shown in the cut. While the Self Cleaning Cones rotate, the teeth must pass each other so that any material packed into them will be cleaned out. Each cone cleans the other and the teeth which contact with the bottom of the hole are free to penetrate the formation to maximum depth.

The formations in which the "Hughes Self Cleaning Cones" have shown the best results are chalk, anhydrite, gummy lime, hard sticky shale, and other formations which tend to ball up the regular type of cone, and cause flat cutters. While the Self Cleaning Cones cannot compete with the hard rock cone in such formations as granite, basalt, flint and conglomerate, they are nevertheless capable of handling lime and sandstone streaks which often occur between the softer strata.



Hughes Self Cleaning Cones on Bit Head

The new Self Cleaning Cones can be used on the regular Hughes Simplex Bit, and because of this advantage, only one bit head is necessary on a drilling well where the formation is such that both the regular and new type of cones are required.

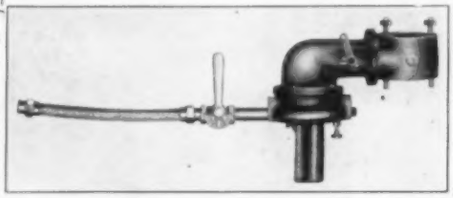
Full information will be furnished by the Hughes Tool Company, Houston, Texas.

## Gas Carburetor Offered By Rock Island Plow Co.

A natural gas carburetor for use on engines where gas is available as a fuel is marketed by the Rock Island Plow Company, Rock Island, Illinois, and is being widely distributed in oil fields.

The Rock Island Model "N" carburetor is designed to use gas as fuel. This carburetor is automatic in performance and can be used either in connection with a governor on the motor or with a standard gasoline carburetor. The fuel supplied to the motor can be readily shifted from liquid fuel to gas or vice versa without stopping the motor.

The speed of the motor may be manually controlled by means of the throttle valve, or the throttle may be opened and speed controlled by motor governor. This is accomplished because the amount of air and fuel taken into the motor is regulated by the vacuum in the manifold.



Rock Island Plow Company Natural Gas Carburetor

With the common type of gas mixer, when the motor stops, the gas, which is usually under slight pressure, escapes and is wasted, or if the motor is encolsed, the room may become filled with inflammable and poisonous gas. With the Model "N" improved construction, the gas is automatically shut off when the motor stops.

The Rock Island natural gas carburetor is made in four standard sizes—1¼, 1½, 1¾ and 2-inch. This range is sufficient to accommodate multiple cylinder motors from 25 to 100 horsepower.

Carburetor sizes cannot be determined by air intake or outlet sizes, but may be determined by manifold drilling. For instance:

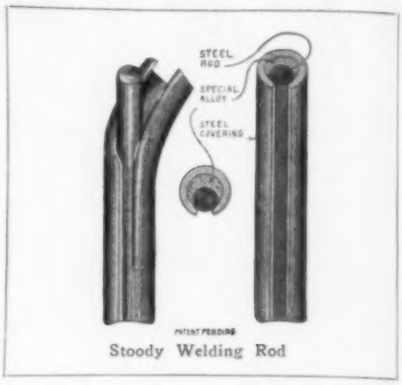
N-1—1¼ S. A. E. Carburetor Flange has hole centers 2 11/16.

N-2—1½ S. A. E. Carburetor Flange has hole centers 2 15/16.

N-3—1¾ S. A. E. Carburetor Flange has hole centers 3 5/16.

N-4—2-in. S. A. E. Carburetor Flange has hole centers 3 9/16.

The company will send further information upon request.




Stoody Welding Rod

## Stoody's Welding Rod Has Self-Hardening Feature

There has been a growing demand in the oil fields for a welding rod, the deposit of which would be self hardening, yet that would thoroughly amalgamate with other steels, such as soft steel, high carbon and manganese steels, eliminating any heat-treating process after welding.

This demand has been supplied in Stoody's self-hardening alloy steel welding rod. As the name implies, its deposit is self-hardening, having a very hard, tough, non-machinable surface that has the highest abrasive resistance and maximum wearing qualities. It will not spread or break down under continual pounding or stress.

In the art of welding, the welder has at his command in the use of the arc or acetylene flame a highly efficient miniature steel furnace. Recognizing this fact, the Stoody Company have incorporated in the construction of their welding rod all the alloys and necessary cleansing and fluxing agents to make, after passing through the process of welding, a refined product or deposit.

Stoody's self hardening alloy steel welding rods are made in one size only, which is slightly more than 3/16 inch by 28 inches long and can be used with either acetylene or electric welding machine, and is recommended for building up the cutting or wearing edges of all oil well tools such as discs, shanks, fish tails, under-reamer lugs and blades, mills, core barrels, kelly bushings, kelly stems, rotary tables, pinion gears, clutches, sprockets, etc. The current values required are about 200 amperes and 60 volts.

A peculiar characteristic of the rod is that when using with direct current machine the negative wire must be used as a ground.

For further information write Stoody Welding Company, Whittier, California.

# ENGINEERS & CONTRACTORS HOPE SERVICE IN NATURAL GAS AND OIL

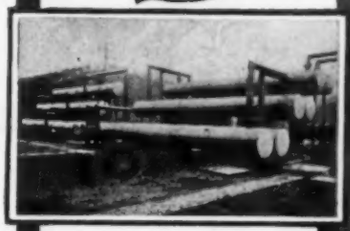
Laying 101 miles of 12-inch gas line through difficult country.

Hope Service to the oil and gas industries includes engineering counsel, design, construction and contracting—in pipe lines for oil or gas, oil pumping stations, gas compressing and boosting plants, gasoline recovery systems, city and inter-city gas mains.

It is a service based upon 20 years of specialization upon the problems of the oil and gas industries. Hope-designed and Hope-built plants are operating wherever oil or gas is found—efficiently, economically, profitably.

In this field, the Hope Company is the one organization qualified and equipped and ready to assume entire responsibility, from preliminary design to completed work.

No job is too small to interest the Hope Company—no job too large or too distant for it to handle with speed and economy. Our experience and resources are at your disposal.



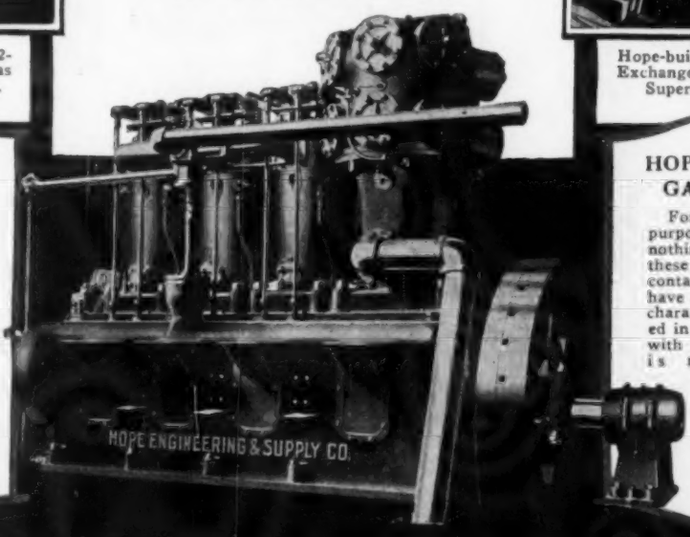
Absorbers are a part of the equipment the Hope Company furnishes.

A record of 14,780 ft. of 12-inch pipe laid in one day was made on this 68-mile line.

Pump House in a Hope-designed and Hope-built gasoline plant.

Hope-built Hildebrand Heat Exchangers are admittedly Superior in economy.

ENGINEERS CONTRACTORS HOPE Engineering & Supply COMPANY MT VERNON OHIO, U.S.A. DESIGNERS MANUFACTURERS




## HOPE VERTICAL GAS ENGINE-COMPRESSORS

These modern units combine, with an efficiency and economy unsurpassed, a compactness which means a big saving in plant space, foundation and building cost, piping, transportation, installation. As an investment, you cannot put your money into a better pumping unit than the Hope-Vertical.

## HOPE VERTICAL GAS ENGINES

For straight power purposes, there is nothing better than these compact, self-contained units. They have all the operating characteristics required in any prime mover, with an economy that is nowhere bettered and a stand-up-ability that keeps up-keep costs down.

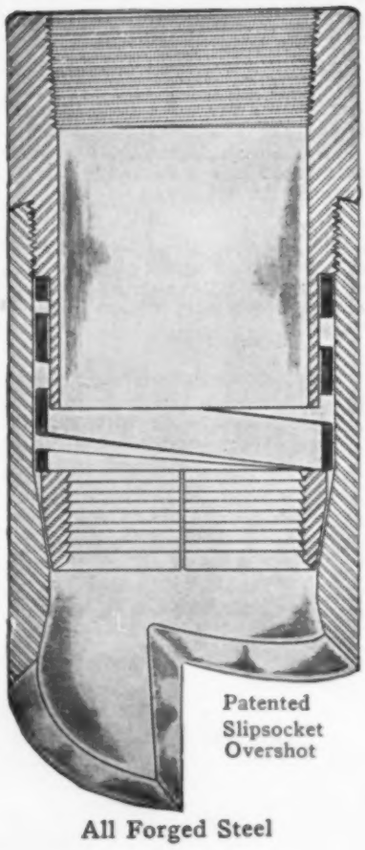
H-18

# It's LeBUS SERVICE as well as LeBUS QUALITY that pays YOU DIVIDENDS

## LeBUS Slipsocket Overshot

—takes all the "guess" out of your fishing jobs.

Equipped with slips for fishing for all sizes of plain pipe or tool joints and collars.



Patented Slipsocket Overshot

All Forged Steel

## LeBUS CATHEAD

That new product of the Le Bus plant that saves time, money and life.

Write for information on this new method of catheading, making up or breaking out.

LE BUS PATENTED OIL WELL TOOLS

LeBUS Automatic Cathead
LeBUS Slipsocket Overshot
LeBUS Eureka Tongs
LeBUS Breakdown Post
LeBUS Bottom Hole Plug
LeBUS Outside Drill Pipe Cutter
LeBUS Inside Pipe or Casing Cutter

AT YOUR DEALERS

MANUFACTURED BY THE

LE BUS ROTARY TOOL WORKS

ELECTRA, TEXAS

# New and Better

## STAY TITE

## TANK EQUIPMENT

**Central Type Swing Joint**

Made of close grained cast iron. Overcomes all the disadvantages inherent to swing joints made up of fittings and swing joints of the offset type.

**Type "A" Plain Gauge Hatch**

Bronze top, cast iron base. This gauge hatch is opened by turning top quarter turn which allows it to be lifted off. Used for sampling and gauging. Made for steel and asbestos covered roofs.

The STAY TITE Swing Joint has the following advantages:

Avoids Break Downs.
Self Supporting.
Centrally Supported Swing Pipe.
Cannot Turn or Tip.
Works Easily.
No Threaded Connections to wear out or unscrew, corrode or break off.

All of the STAY TITE Gauge Hatches will:

Eliminate Evaporation.
Reduce Fire Hazard, and are made:
Vapor Proof.
Non Sparking.
Rust Proof.
Rain Tight.
Fool Proof.
Easy to operate

**Manufactured by**

**Type "B" Combination Gauge Hatch**

Bronze top—Cast Iron Base. Constructed along the same lines as type A but with additional self-closing gauge opening. For tanks that have to be gauged frequently and to be sampled occasionally. Made for steel and asbestos covered roofs.

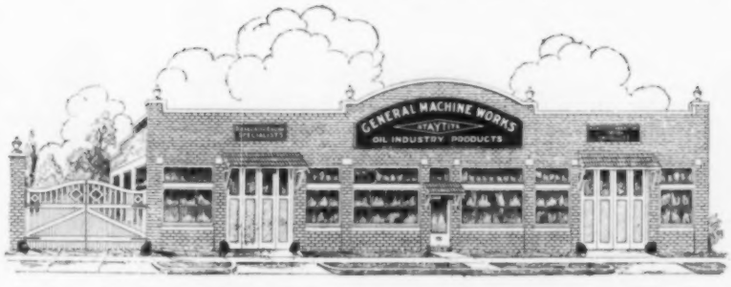
**Type "C" Self Closing Gauge Hatch**

Bronze top—Cast Iron Base. This gauge hatch opens by stepping on a foot lever. The cover opens up away from the gauger. For tanks where frequent gauging and sampling are necessary. Made for steel and asbestos covered roofs of any pitch.

# General Machine Works

Houston, Texas

Office and Works:
3608 Polk Ave.



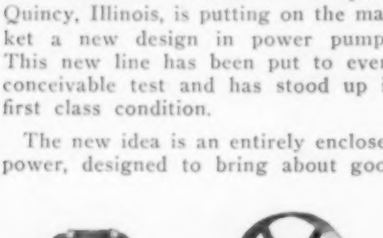

Office and Works:
3608 Polk Ave.

**Further information gladly furnished on request.**

## Automatic Lubrication Big Feature of Gardner Pump

After several months experimenting, the Gardner Governor Company, Quincy, Illinois, is putting on the market a new design in power pumps. This new line has been put to every conceivable test and has stood up in first class condition.

The new idea is an entirely enclosed power, designed to bring about good



Gardner Improved Pump

lubrication from a single oil reservoir, thus eliminating the necessary and frequent oiling of the pump. The main driving gear runs partly submerged in oil and carries it to channels which distribute it in a continuous flood to all working parts of the power end.

In the Gardner shops one of these outfits was in operation for nearly a year, and in the entire period used only three quarts of oil.

Cleanliness is a big feature of the new design; bearings and gears are completely protected from dust and grit.

In order to enclose them, the design of the power ends has been materially altered. The main driving gear which in the old design was mounted on one end of a crankshaft, is now at the middle of the main shaft, and the pump is actuated by eccentrics on this gear. This construction has an advantage over crankshaft construction since it places the burden of pumping on larger bearings to which thorough lubrication is assured by the new lubricating principle.

Gardner engineers state that whereas, to keep the old style pump in first class condition, oiling of some parts was essential at least once each day, the new enclosed design pumps can with safety be left without attention of any kind for 30 days at a time.

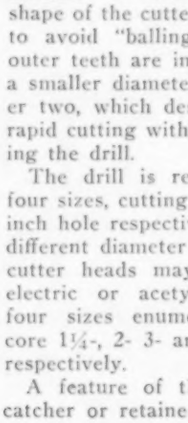
More thorough information will be supplied by the Gardner Governor Company, Quincy, Illinois.

## Elliott Alco Core Drill Features Are Described

The Elliott Alco Core Drill is a new design which has met with immediate success wherever introduced. It is a rotary core drill of the solid head type as distinguished from the removable tooth type, but the wearing surfaces are contained in a small unit which threads on to the cutter body and which may be discarded when dull, or may be built up by the use of acetylene or electric welding. Circulation holes are far enough above the cutting surfaces to avoid plugging, and the shape of the cutter body and head tend to avoid "balling up." Two of the outer teeth are in advance of, and cut a smaller diameter hole than, the other two, which design makes for more rapid cutting with less danger of sticking the drill.

The drill is regularly furnished in four sizes, cutting 4¼, 5⅝, 7⅝ and 9⅝ inch hole respectively. Where slightly different diameter hole is required, the cutter heads may be built out with electric or acetylene welding. The four sizes enumerated above cut a core 1¼-, 2- 3- and 4-inches diameter, respectively.

A feature of the drill is the core catcher or retainer which obviates the necessity of blocking in a core at the end of a run.



Elliott Alco Core Drill

The Elliott Alco Core Drill is manufactured by the Allen and Courtney Oil Tool Company of Compton, California, which company has applied for patent on several novel features of design. It is distributed exclusively by the Elliott Core Drilling Company, 902 Wright and Callender Building, Los Angeles, California. These companies maintain a branch shop and office at 3210 Harrisburg boulevard, Houston, Texas, where they are prepared to sell and service the tool.

## New Design for Calf Wheel Construction

A new design in calf wheel construction is embodied in the Bradford 7½ foot steel calf wheel being manufactured and sold by the Bradford Rig and Reel Company of Tulsa, Oklahoma, through its various branches in the Mid-Continent field.

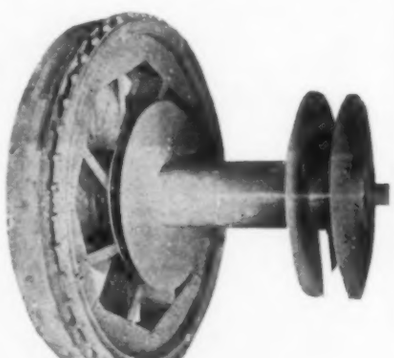
The principal features of the Bradford calf wheel are as follows:

Steel shaft one-half inch by sixteen inches that eliminates possibility of crushing shaft when handling casing.

Ease of assembly due to the arms of the wheel being riveted to steel flanges which bolt to a cast iron flanged hub on the shaft with only sixteen bolts, all bolts being easily accessible with an ordinary wrench.

Type of construction is such that no part can get out of line through rough handling in transporting it to the field.

Further information may be obtained from the Bradford Rig and Reel Company, Tulsa, Oklahoma.



Bradford Calf Wheel

## Rod and Tubing Hook Made of Steel Casting

A rod and tubing hook that has unusual safety features is announced by the B. & A. Specialty Company, 404 W. First Street, Tulsa, Oklahoma.

The hook is made of high grade steel casting accurately machined and so designed that the weight is distributed in a way to make a light strong hook heavy enough for the longest string of rods or light strings of tubing.

The safety latch is closed by the elevator bail and cannot be opened from any accidental contact. It is necessary to apply hand pressure on the handle, at right angles to the latch, which eliminates any possibility of anything striking the handle and opening it. As

B. & A. Specialty Rod and Tubing Hook

an additional precaution, the handle is enclosed.

The safety latch is circluar in shape, which upon closing makes the hook practically round in shape, thus preventing the hook catching in the girts of the rig or fouling in the lines.

The ball bearing is fully enclosed, acting as a grease container and preventing the sand and grit from cutting out the bearings.

These hooks are available from any supply store, and further details regarding them can be had from the company, in Tulsa.

## Safety Is Built Into New Simplex Jacks

Accidents caused by the failure of jacks can be prevented by removing the causes that produce jack failures, declare Templeton, Kenly & Company, Ltd., and their No. 22 Simplex Jack is recommended as a safety jack.

During the past year this jack has undergone several inprovements: instead of machine screws, Simplex Expansion Rivets are used. It is said that these are extremely simple, can not work loose or cause jack failures.

The jack is equipped with a double or two-way lever socket which solves the lifting problem where an "overhang" or head room has restricted the operation of a single socket jack.

The Simplex jack is highly recommended for truck work, due to its efficiency and power. It has a greater lifting power than the combined efforts of 300 men. Its cost for 24 hours' service is approximately less than the cost of two minutes' times of one laborer.

Drop forged steel is used in the rack bar, pawls, spring links and reversing lever. The parts are heat treated and hardened where necessary. The base is arched, providing a firm foundation, and has unusual strength.

The jack lowers automatically. It is furnished with a five-foot steel lever pole. Capacity of the jack is 10 tons.

Complete information will be furnished by Templeton, Kenly & Company, Ltd., 1020 South Central Avenue, Chicago, Illinois.

Templeton-Kenley Simplex Power Jack

## Cook Puts Up Aluminum Paint in Double Bucket

To make sure that its customers get fresh paint, the Cook Paint and Varnish Company, Kansas City, Missouri, and Fort Worth, Texas, is offering its aluminum paint in a new type of container.

This container consists of one big bucket which contains the liquid for the paint and a smaller bucket which holds the aluminum powder. The smaller bucket is within the big one.

To mix the paint, remove the top of the large bucket and take out the smaller bucket containing the powder. Cut ou the soft tin top of the small bucket and dump the powder into the liquid. Stir well with a wide, flat paddle that is long enough to reach the bottom of the large bucket.

This fresh mixture gives a bright, shiny paint of superior quality, containing exactly the proper proportions of powder and liquid. This company claims that for aluminum paint to be most effective, it must be freshly mixed.

More information will be mailed by the company, upon request.

"Nor-Grip" Casing Clamp

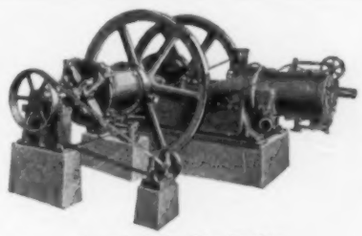
## Nor-Grip Clamp Insures Effective Collar Seat

A casing clamp that has been primarily designed to give a firm and effective seat for casing collars is being manufacturer, of Tulsa, Oklahoma. supply companies by W. C. Norris, manufacturer, of, Tulsa, Oklahoma. The clamp has been trademarked the "Nor-Grip" casing clamp.

The "Nor-Grip" is machined to exact outside diameter of the casing and the face on both edges is also machined. This gives a square shoulder on which to rest the casing collar. This feature also provides safe insurance against dropping the casing through the clamp.

Equipped with five 1-inch bolts on each side, the "Nor-Grip" clamp has spring steel lock nuts that prevent the bolts from working loose and also safeguard against spreading or the collar wedging in the casing clamp, thereby causing a strain on the bolts.

Further information as to the "Nor-Grip" casing clamp or other products of the company may be obtained by communicating with the company direct.



Joseph Reid Gas Engine

## Reid Gas Engine Made 35 Horse Power Size

A 35 horsepower gas engine is the latest addition to the Joseph Reid Gas Engine Company's line of oil field machinery. Power, speed and flexibility characterize the engine, well fitting it for work too heavy for their 30 horsepower engine but not requiring the power of their 40 horsepower engine.

The engine operates on the two cycle principle with an auxiliary air cylinder.

Features of the engines are, the heavy shaft, made of high grade steel, wide bearings, water jacketed exhaust ports and many other detail refinements.

The oiling system on the engine is designed to provide ample lubrication under the most severe operating conditions. The main bearings are lubricated by chain oilers from large oil reservoirs in each pillar block. The main rod head bearing is oiled through the center of the drilled crank pin by means of a ring oiler. Large sight feed oilers supply oil to other bearing points, or, if desired, a force feed oiler can be supplied at additional charge.

Ignition is by hot tube igniter or Type OC Wico Igniter. An extra charge is made for the electric igniter.

For pumping wells, operating powers, or other work where one-way motion only is required, this engine can be fitted with either a one-way or the Reid Cut-Off Type clutch. Equipped with the standard reverse clutch, this engine will be found very satisfactory for handling rod, tubing and casing, cleaning out or pumping. Its power and flexibility make this engine exceptionally well suited for drilling work.

Further information on this new engine will be furnished by the Joseph Reid Gas Engine Company on request.

## Automatic Piston For Slush Pumps Has Proven Efficient

Operators will be interested in the L. J. S. Automatic Piston for Slush Pumps, manufactured and marketed by The Kipp Supply Company, 2610 Arlington Avenue, Torrance, California.

This piston has been tested under the most severe conditions and in every instance has proven its merit, according to the manufacturers. The piston is so built that it is impossible for the fluid to leak through from the follower to the piston.

Any size pump can be fitted with the piston.

Further information can be had by communicating with the company.

John Crane Style 300

## Special Metallic Packing For Use in Oil Industry

Crane Packing Company, 1808 Cuyler Ave., Chicago, Illinois, has recently developed several packings which it recommends for use in the oil industry.

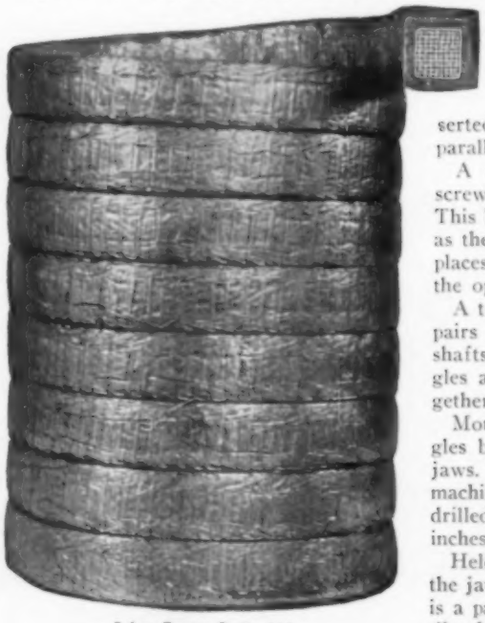
"John Crane," Style 100 is an all-metallic packing made up of babbitt

John Crane Style 200

foil. Many large companies are standardizing on this packing for their line station reciprocating pumps operating against 800 pounds pressure, handling oil, crudes and distillates.

"John Crane", Style 110 is a flexible, resilient metallic packing, armored with babbitt foil. This packing is recommended for centrifugal gasoline pumps. The packing will run cool, will eliminate heating and prevent gasoline wastage.

"John Crane", Style 200, a resilient



John Crane Style 110

metallic packing with copper armour is suitable for high temperature oil service for valves, expansion joints, and pumps handling hot oils and tar. It is flexible and compressible and can be cut with a knife; it is practically permanent on this very severe service, according to the manufacturers.

"John Crane", Style 300, is being used successfully on gas compressors and steam rods. It is a resilient, semi-metallic packing with metal insert. The metal insert eliminates wear and reduces friction.

More information can be had from the company.

## Bovaird Tubing Spider Handles All Sizes

The Bovaird Grip Tubing Spider as shown in the accompanying illustration is the newest product of The Bovaird Supply Company of Tulsa.

The spiders are made in one size only and may be used on any size tubing by inserting the proper size slips in the jaws. One spider and a set each of two-inch, two and one-half-inch and three-inch slips handles all the sizes most commonly used.

The spider consists of a base about 15 inches square with four lugs underneath and a 1 x 5-inch set screw through each lug. These set screws are to fasten the device to the casing head or other article upon which it sets. It can be used on any size or make of casing or control head.

The base has an opening about four inches wide in one side and extending a little past the center. This allows the spider to be put on and taken off the tubing at any point desired. This is very convenient in passing packers and tubing catchers.

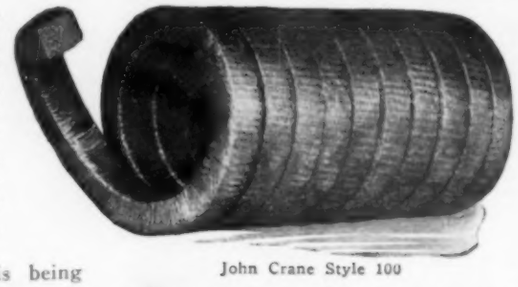
There are four pairs of lugs on top of the base through which two one and one-quarter inch machine steel shafts are inserted, one at each end of the base and parallel to the opening above described.

A removable brace, secured by cap screws, is placed on one end of the shafts. This brace is on the same side of the base as the opening above described and it replaces, in strength, the metal left out for the opening.

A toggle is inserted in each of the four pairs of lugs above mentioned and the shafts also pass through them. The toggles and shafts are securely fastened together with set screws or pins.

Mounted on the other ends of the toggles by means of trunions are a pair of jaws. An upper and lower shoulder is machined on each jaw, and a hole is drilled in the center. The jaws are seven inches long.

Held in place between the shoulders of the jaws by countersunk head cap screws, is a pair of slips, one in each jaw. These slips have several rows of sharp horizon-



John Crane Style 100

tal teeth which enable them to take hold of the tubing as soon as they come in contact with it.

Passing through ears on one side of the jaws to hold them in a vertical position when they are not engaged on the tubing is a three-quarter by nine inch rod.

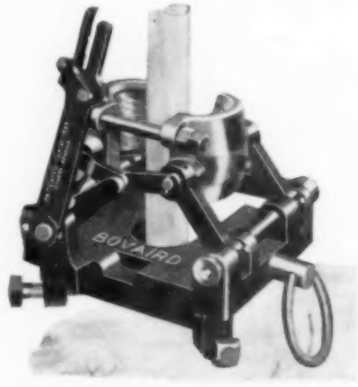
A handle about 15 inches long is mounted on a shaft extending through a lug on top of the base. There is a crank on the other end of the handle shaft and a pair of opening links from a pin in one end of the crank to pins on one end of the jaw trunions. The handle, crank and opening links are to open the jaws so that tubing may be lowered. The illustration shows the handle and jaws in the open position.

A ring handle is fastened to a lug on each end of the base. These are for convenience in lifting the spider.

A special analysis steel casting, heat treated to insure utmost strength is used for all the major parts except for the shafts and slips. Cold rolled machine steel shafting is used for the shafts. The slips are made of a special alloy tool steel, properly tempered to insure long wear. The weight of a spider complete is 212 pounds.

In action the spider is positive as the jaws and slips close by force of gravity and do not depend on springs, either to open or close. It is speedy as, regardless of the amount of weight it has been sustaining, the slips release the very instant the tubing is raised by the elevator. However, they do not release enough to let the tubing fall, should an accident occur. After the elevator takes the weight the slips are moved away from the tubing by lifting the handle.

In pulling tubing the jaws are left closed at all times as they open and shut automatically when the couplings pass through.




Bovaird Tubing Spider

# W-K-M CO., INC.

## EXCLUSIVE SALES AGENTS FOR W-K-M-WILSON WINCH

W-K-M CO., INC.
HOUSTON, TEXAS
EXCLUSIVE DISTRIBUTORS

*The* WILSON WINCH

A REAL HEAVY DUTY Winch for the Fordson—

Strong Enough to handle 3500 feet of two inch tubing direct on the Winch Drum—or 5000 of two inch tubing on a derrick Bull Wheel.

With Drum Capacity enough to handle 2500 feet of ½" bailing line—or 3400 feet of 7/16"—a wonderful machine for bailing wells.

Three Speeds Forward and Two Reverse—correctly proportioned—a High Speed for Bailing or light work, a Main Pulling Speed for all ordinary pulling and a Low Speed for Heavy Work—a speed for every load means Fast Work.

High Speed Friction Reverse—Foolproof and Trouble Proof—the only practical reverse yet developed which brings the empty block down Fast without waiting or pulling—a time and labor saver.

Strong Rigid Framework securely mounted on the Fordson Tractor—great strength with light weight—front wheels set ahead just under drum—new type axle extension—complete accessability to crankcase of Fordson, gets over any kind of ground.

Built of the BEST MATERIALS by Men who Know How, and Guaranteed to DO THE WORK—Put Your Pulling Problems up to US and we will Guarantee RESULTS or No Obligation!

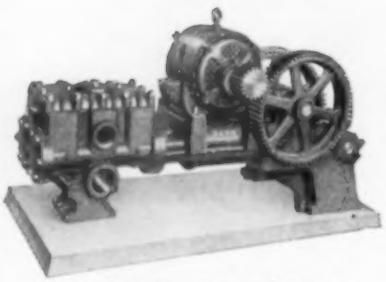
The W-K-M-Wilson Winch speeds are so arranged that it is never necessary to run the Fordson motor more than one thousand revolutions per minute to get any of the above results. That is why a Fordson wears longer and gives perfect results with the Wilson Winch.

Place your order through your local Fordson agency, who gives service on W-K-M-Wilson Winch and Fordson.

Write for information direct to office of

**W-K-M CO., INC.,** WEST BUILDING HOUSTON, TEXAS
(REGISTERED TRADE NAME)

*Manufacturers and Distributors of Oil Field Specialties*



Motorized Pumping Equipment

## Gaso Pumps Now Made for Use With Electric Power

Increasing use of electric power in the oil industry during the past year has led the Gaso Pump and Burner Manufacturing Company, Tulsa, to offer in motor-mounted or direct motor connected types, a number of improved Gaso models, suitable for use with electricity.

Practically any pump in the extensive Gasoline, with the exception of the small pumps designed for connection to rod lines, walking beams, etc., may now be had in electrified type.

All Gaso pumps are sturdily mounted, making them efficient with electric power.

The illustration shows Gaso Duplex Piston Gear-Driven pump.

For full particulars address the Gaso Pump and Burner Manufacturing Company, Tulsa, Okla.

## Maximum Service Claimed For Tivan Fish Tail Bit

In order to offer a bit that has maximum service qualities, the Titusville Forge Company, Titusville, Pennsylvania, has introduced a fish-tail bit made from special alloy steel. This bit is known as the Tivan.

Starting with ingots of special alloy steel, a discard of 45 per cent from top and at least five per cent from the botton of each ingot is made to insure freedom from piping and segregation. The original cross-section of the ingot has an area at least four times that of the finished bit.

Heating operations are accurately controlled by pyrometers. Ingots are cogged under a 2000-ton press, to within four inches of the rough bit size and allowed to cool. They are then reheated and formed under a 500-ton press.

These bits are guaranteed to have exceptionally wide dressing and hardening ranges.

For further particulars address the Titusville Forge Company, Titusville, Pennsylvania.

## Tank With Floating Roof for Field Use

An electrically welded tank of 9000 barrels capacity with floating deck for oil storage has been perfected by the Columbian Steel Tank Company, of Kansas City, Missouri.

The tank is approximately 53 feet in diameter by 20 feet high, is made from one-fourth inch plate, bottom and lower ring of the side, but the balance of the sides is made from three-sixteenths inch plate with three by three and 15/16 angle around the top. The tank is equipped with the Keiffer type floating deck which is made of three-sixteenths-inch plate, the deck proper being slightly coned and lowered at the center to drain all the water to this point, the water being discharged into a small well at the center and led to the outside through a flange in the side and close to the bottom of the tank by means of pipe line in crazy tongs arrangement and protected against leakage at the joints by the use of packed swing joints.

To the edges of the deck a flange is welded on a 45 degree incline and upward to a vertical height of about 12 inches to prevent oil running onto the deck. A flange extending downward and onto the oil for a distance of about 12 inches performs two functions; it supports the contact members of the baskets and precludes the possibility of the escape of any of the gases that may form on the surface of the oil during the heat of the day, holding these gases under the deck and unescapable until the cool of the evening when they will again be absorbed by the oil.

The deck covers approximately 97 per cent of the surface of the oil and there can be no evaporation from that part of the oil covered by the deck because no air is allowed to come in contact with the surface of the oil at any place under the deck. The deck rides at all times on the surface of the oil itself. The baskets of the deck are the contact members between tank shell and deck proper and almost completely cover the three per cent of oil surface left uncovered by the deck. The baskets are in sections and are so made as to adjust themselves to any unevenness on the inside of the tank shell.

The baskets are partially filled with gravel, making a screen that eliminates all fire hazards.

This type of tank and deck construction is already in use by some of the larger companies and its introduction is meeting with good success wherever there has been a need for it.

Further information may be obtained by communicating with the company direct or with H. R. Leland, district manager at Tulsa, or from any other of the company's district offices throughout the country.

Columbian Welded Tank With Floating Roof

## Smith Separator Offers Two New Type Separators

During 1925 two new types of separators have been added to the line manufactured by the Smith Separator Compapny of Tulsa, Oklahoma.

The new No. 4 separator was designed to meet the demand for pressures up to 300 pounds. It will handle fifteen million feet of gas and 2000 barrels of oil. It has the same inside patented construction as the regular line of Smith Separators, but was created to meet the demand for separator to handle the higher pressures.

Another new type is the No. 5, which is a combination oil and gas separator and settling tank for use on wells that are making gas, oil and water.

The well can be pumped into the No. 5 separator, the oil flows through it direct to the stock tank, the gas is taken off to the gas line or to the gasoline plant and the water settles to the bottom where it is drawn off and disposed of. This gives an equipment that disposes of the necessity of both separator and settling tank.

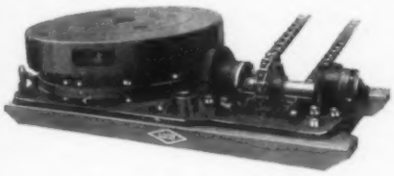
More data can be had from the company.

## Lucey Corporation Has Several New Products

In order to keep pace with the growing demand for better field equipment, The Lucey Manufacturing Corporation, 19th and Grove Streets, Chattanooga, Tennessee, has brought out a number of improved products. Short sketches of these follow:

### All-Steel Pipe-Screwing Rotary Drilling Machine

This machine is made entirely of electric annealed cast steel and embodies the



Lucey All-Steel Pipe-Screwing Drilling Machine

latest developments in this type of machine, being fitted with Timken roller bearings for the drive shaft and ground roller bearings for the rotary table. It is constructed of few parts and consequently is simple to operate as a universal machine for either drilling or screwing up pipe. The base is a one-piece casting, insuring perfect alignment of bearings, and the table has no projections or bosses on top to interfere with the handling of tools. It is a perfectly flat top rotary machine with locking devices for all drive bushings.

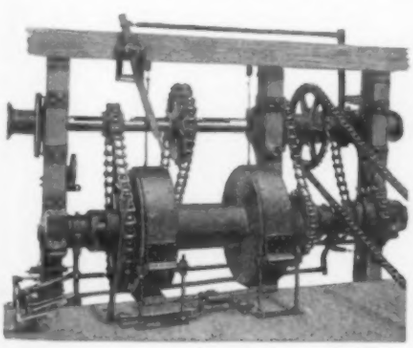
All moving parts run in a bath of oil, with provisions for taking up wear, and are securely protected against the entry of dirt, water, or any foreign matter.

The machine will pass a 21-inch bit through the table and will handle casing from 18½-inches down.

Owing to its design and the use of the highest grade of materials the weight complete is only 7300 pounds.

### New Design of Draw-Works

The new design of draw-works was developed to meet the demands for heavier equipment for deep drilling. It is built of electric annealed steel castings for sprockets, clutches, and all small parts, Meehanite metal for brake drums, and special alloy steel for the line and drum shafts. The brake bands are fitted with an equalizing attachment and are of sufficient width to handle the heavier loads without undue heating. The rope drum has three speeds, permitting the rapid handling of the drill stem at all depths.



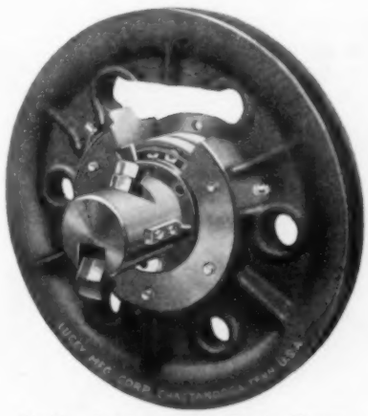
New Lucey Draw-works

### Timken Bearing Crown Block Sheave

To keep pace with the increased speed of rotary drilling machinery, the Timken bearing crown block sheave has been introduced. Owing to its design, it can be placed on almost any steel crown block in the fields, simply by clamping the shaft to the block by the hook bolts (patented). The sheave wheels are made of either manganese steel or iron and run on two heavy Timken roller bearings, which are completely encased in an oil tight compartment. Adjustment for wear is provided and misalignment of bearings is impossible.

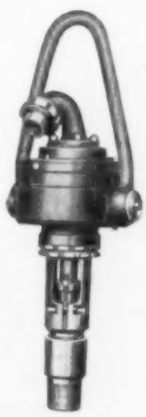
### Timken Bearing Swivel

The three-inch Lucey Timken bearing swivel was developed to meet the demands for a high speed swivel and one of light weight. It is of the same general design as the well known Lucey 4-inch and 6-inch Timken bearing swivels but the body is made from a solid forging and is entirely machine finished. Only the very best of materials are used, which enables this swivel to be built for carrying loads up to 60,000 pounds, and it weighs only 400 pounds.

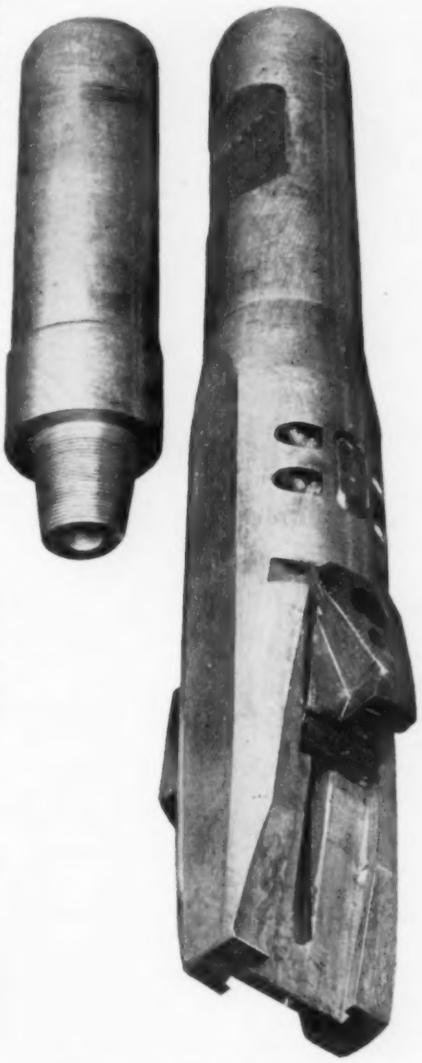


Timkin Bearing Crown-Block Sheave

All of the above equipment has undergone the most severe field tests before being placed on the market and can now be found in the Lucey warehouses in the various fields, where a complete line of repair parts is carried to meet any emergency.



Timkin Bearing Swivel



Bridgeport Rotary Type Underreamer

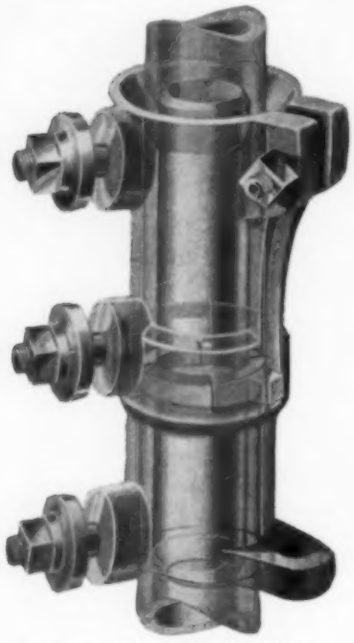
## Bridgeport Offers New Type Rotary Underreamer

In addition to the qualities which have made Swan Underreamers famous, the new rotary type underreamer, developed by the Bridgeport Machine Company, Wichita, Kansas, has added valuable features.

Among the most improtant of these is the "nose" or "guide" that extends below the shoulder, holding the tool in the center of the hole being drille. This prevents the underreamer from cutting all on one side, leaving bumps on the wall that prevent the casing from following the reamed hole.

Another important advantage of the new reamer is the construction that maintains circulation, by the fluid coming out directly under the cutting edge of the cutter.

Complete information can be had from the company.



Superior Tubular Derrick Sleeve

## Superior Tubular Derrick Announces Improvements

Several improvements in the sleeve of the Superior Tubular Derrick, make this derrick outstanding. The sleeve construction consists of a number of special features.

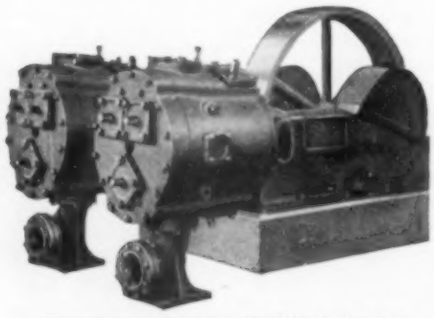
High grade steel used in the sleeve with the pilot pin assembly forms a construction declared to be unique in its simplicity and strength.

The pilot pin which has two lugs protruding downward and one key outward, is hydraulically pressed into the bottom of each leg section, the lugs on the pilot pin fitting in between the lugs on the inside of the sleeve casting. Thus the ends of each section of pipe are reinforced both inside and outside, precluding any possibility of crushing or fracturing the pipe at the ends.

The upper half of the sleeve is slotted vertically and into this slot extends the key on the pilot pin which guides within this slot and insures perfect alignment of the entire derrick. The key on the pilot pin together with the unique dovetailing within the sleeve safeguards against the twisting of any segment of the derrick. After the pin is guided into place the clamping bolt on top of the sleeve is then drawn tight and firmly clamped to the leg section above, resulting in a solid steel joint which is many times stronger than the leg sections themselves.

Sleeves are fitted with six one-inch stud bolts. These bolts are flattened on the end and the steel is cast around them, resulting in the fusion of the bolt steel with the cast steel. After the casting is made, the stud bolts are threaded, the lock nuts which hold the girts and braces in place are put on and the ends of the bolts burred. These nuts accordingly cannot come off and there is no danger to the crew on the derrick floor from falling bolts or nuts.

Additional information will be supplied by the Superior Tube Company, Tulsa, Oklahoma.



Worthington Duplex Belt-Driven Feather Valve Vacuum Pump

## Gardner Governor Offers New Verticle Compressor

An improved design vertical compressor has been introduced by the Gardner Governor Company, Quincy, Illinois.

This Gardner XH Type compressor was developed especially to meet the demand for a compressor which may be operated by direct connection to commercial gasoline engines and electric motors. All superfluous weight has been eliminated, water jackets are exceptionally liberal, surrounding cylinders and valves, and arranging for a direct flow of water from the bottom to the top. All dead pockets and eddy currents have been eliminated as well as carbon troubles from lack of cooling.

Gardner Vertical Compressor

All reciprocating parts are balanced with extreme accuracy, securing freedom from vibration. Valve areas are especially liberal. Light duo-plate valves are used.

The compressor operates at speeds of 600 to 800 R. P. M.

Improved, highly efficient lubrication, and ready accessibility of all working parts are other virtues of the new design.

For descriptive circular and full particulars address the Gardner Governor Company, Quincy, Ill.

## Feather Valves Improve Worthington Vacuum Pump

Through the recent application of feather valves to Worthington Vacuum pumps, clearance has been reduced to an absolute minimum, as stated in information sent out by the manufacturers. With these valves it is quite easy to maintain five mm. of a mercury barometer on a closed vacuum. Because of the high volumetric efficiency, the actual capacity approaches very nearly the rated displacement.

The only moving parts of the feather valves used are their strips of ribbon steel which cover slots in the ground seat and lift into grooves in the guard. These are responsive to the slightest pressure and in spite of a lift of one-quarter to three-eighths of an inch there is no destructive pounding. Flexibility of the valve strips is such that slight irregularities in the seat do not affect the tightness of the valves.

There is no outside running gear and a large oil reservoir is provided in the frame.

More information on the pump will be provided by the Worthington Pump and Machinery Company, 115 Broadway, New York City.

## Ellis Traveling Barrel Recommended for Economy

The Ellis Traveling Barrel, manufactured by Ellis Manufacturing Company, Kansas City, Kansas, and distributed through the National Supply Company stores is recommended for its economical operation.

Should it become necessary to pull an Ellis barrel, the complete barrel, including both valves and friction are brought to the surface by a single run of the rods. Likewise a single operation accomplishes replacements. Thus repairs and replacements are accomplished quickly, operating cost is reduced, and the daily production is not seriously affected.

The Ellis barrel is constructed with two tubular members. The inner tube is stationary and is provided with a standing valve at the upper end. The cups are inverted and are below the standing valve. Above and below the cups the barrel has piston rings which protect the cups from constant wear.

On the lower end of the inner tube, the barrel has a tapered brass friction which takes a friction hold in the top of the old barrel or seating nipple and holds the barrel stationary.

The outer tube is a traveling member, thereby acting as a plunger and is likewise equipped on the upper end with a traveling valve.

On the upward stroke the oil is raised to the inner tubing and discharged through the standing valve in the upper part of the outside tube. During this operation the standing valve is open, the working barrel closed, and the pressure on the cups is from below. There is no pressure whatever on the cups from above. On the downward stroke the pressure is equalized and the cups are relieved entirely.

Sizes of the barrel give a stroke range from 52 inches to 92 inches.

Further information can be had from either the National Supply Company or The Ellis Manufacturing Company.

# MALONEY

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

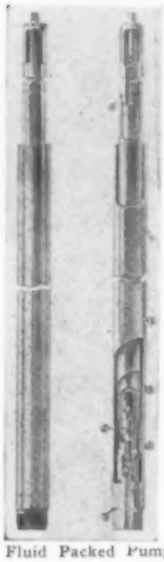
## Pay us a visit during THE EXPOSITION at our plant, Southeast of Exposition Grounds or at

## BOOTH 114, TEXAS BLDG.

*Say you saw it in The OIL WEEKLY*

## Fluid Packed Pump Action Described

The Fluid Packed Pump, manufactured and put on the market recently by the Southern California Fishing Tool and Machine Company, P. O. Box 727, Santa Fe Springs, California, is recommended for maximum efficiency in pumping, both from shallow or deep wells.



Fluid Packed Pump

This pump is a loose-fitting, free dropping, three tube or plunger type. When pumping the standing tube remains stationary, the other two tubes assembled acting as a plunger or traveling tube. One of these works inside, and the other outside the standing tube, with a clearance of twenty thousandths loose fit. The pump has three valves. One acts as a standing valve, one is in the lower end of the center tube, and the third is at the top connection of the traveling tube.

Since it depends upon the weight of fluid in the column of tubing to seal the tubes in the pump jacket, the pump is strictly a fluid or viscosity seal pump.

The pump is manufactured in two, two and one-half, three, and four inch sizes, in two types. One is known as the rigid type, and the other as the removable.

Manufacturers advocate the rigid type as the best for use in bad sand conditions. When the well cleans up and goes on steady production, a change to the removable type is only a few minutes' work. By changing over to the removable type, a complete pump interchange is made with a rod operation.

Wear on the tubes has no appreciable effect on the efficiency of the pump.

More detailed data can be had by writing the company.

## Makes Improvements to Automatic Tubing Spider

The Houston Pump & Supply Company have recently brought out a new improved Semi-Automatic Tubing Spider in which is incorporated a number of improvements over those formerly manufactured. The improvements covered by this latest design are:

1.—The synchronizing of the movements of the slips both in the upward and downward direction.

This is accomplished by the connection of the arms and cranks by the cross bar which carries the trigger by which the slips can be dropped to engage the tubing or held open while tubing is lowered.

The action of the spider is automatic when coming out with tubing as the collar on tubing engages lower end of slips and raises them sufficiently to permit tubing to be withdrawn, at the same time the slips are always in position to immediately engage and hold tubing in case of accident or for the purpose of breaking out joints.

2.—Another decided improvement is that all movable members of this improved spider are at their lowest position when slips engage tubing.

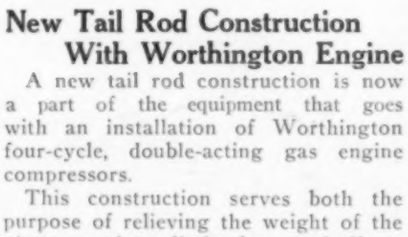
This is a very important factor in avoiding accidental release of slips—either through accident or careless handling of elevators as it is necessary to raise slips by raising handle in order to disengage.

When going into the hole with the spider set in the open position and the trigger engaged, the trigger is fully protected from accidental release by the handle which is above the trigger and of sufficient width and length to divert any moving object from accidentally coming in contact with the trigger.

This improved spider is now made to handle 2, 2½ and 3-inch tubing.

Further information can be secured from the manufacturers.

Semi-Automatic Tubing Spider



Worthington Compressors with Tail Post Construction

## New Tail Rod Construction With Worthington Engine

A new tail rod construction is now a part of the equipment that goes with an installation of Worthington four-cycle, double-acting gas engine compressors.

This construction serves both the purpose of relieving the weight of the piston on the cylinder bore and allows greater and more effective water circulation of the cooling water through the piston and rod.

The frame is of the box type, heavily ribbed with full length bearing on the foundation and is carried above the center line of power stresses to eliminate weaving. The power cylinders are of special Diesel iron, made separate and bolted to the end of the main frame. An expansion ring is provided to take care of the difference in expansion, between inner and outer cylinder walls. There are no complicated or restricted water passages.

The power piston and rod are water cooled insuring rapid heat removal and efficient cylinder lubrication. Connecting rods, shafts, crossheads, etc., are of forged furnace annealed steel.

A cast-iron housing with hand hole plates between main frame and compressor cylinder prevents the possibility of gas entering the crank case.

A belt-driven Massey governor is mounted on the side of the main frame and as an extra precaution a safety flywheel stop short-circuits the ignition on overspeed.

A reciprocating pump driven from the cam shaft provides positive lubrication to the running gear; a force-feed lubricator provides lurbication to the power and compressor cylinders and metallic packing.

Worthington feather valves on the compressor cylinder insure high volumetric efficiency and low maintenance.

Further information can be had from the Worthington Pump and Machinery Corporation, 115 Broadway, New York.

## U. S. Machine Shop Makes Special Type Rotary Slip

Slips designed to work from the top of any rotary have been invented by R. D. Hill of Wichita Falls, Texas, and are being sold by the U. S. Machine Shop, 501 East Cleveland Avenue, Electra, Texas.

These slips have a projection which extends in the two holes commonly used for breakout posts, and the hinge fastens to this part and the slip proper. Bottom of the slip is brought to a size that will allow the four-inch pipe to work freely up and down. Top of the slip carries four hardened teeth that offset the four similar teeth in the bottom of the tool joints, with each tooth approaching a point which allows the pipe and tool joints to settle in the desired position regardless of the position they happen to be in when first touching the slips.

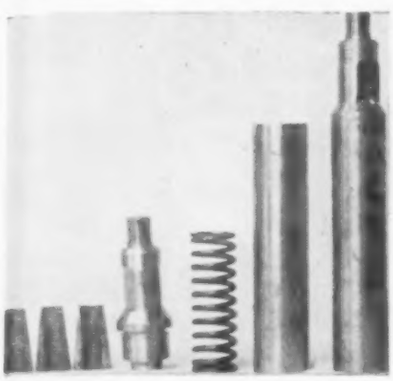
The weight of the pipe will invariably rotate the rotary until the proper position is located.

The slips are beveled at the bottom and will open up while coming out of the hole far enough to allow the tool joints or pipe collars to pass through, after which they fall back automatically, taking their original position. When the last joint has passed through and it is desired to break the joints, the slips are already in position and it is only necessary to set down with the pipe. This gives a positive position and the same height for the tong as well as a positive break-out. Should the line break, the slips are always in position to catch the string.

Further information may be had from the company.

## Sucker Rod Socket Has New Principle

Embodying a new manufacturing principle, the Go-Getter sucker rod socket being manufactured by the El Dorado Machine and Tool Company, El Dorado, Kansas, is equipped with slips two and one-eighth inches long



Go-Getter Sucker Rod Socket

that work in a seat two and one-fourth inches long thus affording a grip surface that engages the entire length of the slips.

The slips remain in the seat at all times even when the rod pushes up, the slips being three-fourths inches longer than the ordinary slips. All parts of the slip have bearing on the seat and the slips catch on the rod the entire length. The slips are machine made and are not tapped. The barrel is made from a solid piece of car axle steel and is characterized by unusual strength. Seat and slips are tapered at such a degree that it is impossible for the slips to pull through the bottom opening of the barrel.

The two inch size socket catches five-eighths, eleven-sixteenths, and three-fourths inch rods with two sets of slips and the three inch size catches all sizes of rods and boxes and pins up to one and seven-eighths inches.

Additional information can be secured from the company on request.

## Sullivan Protective Paints Special For Oil Industry

The Sullivan Company, Memphis, Tennessee, manufacturers of technical paints, varnishes, waterproofings, preservatives, and compounds is putting on the market several items of special interest to the oil industry.

"Kleen-A-Well" is a chemical recommended for removing paraffine or asphaltum from oil developed after careful scientific research, and is a safe and efficient application of heat to the paraffine and asphaltum deposits, sufficiently intense to reduce the deposits to liquid form which will emulsify with water, enabling the producer to eliminate the deposits quickly from his wells.

"Rustcotine" is a chemical compound that will stop and prevent rust, according to the manufacturers. It is said to exclude all corrosive elements and quench the tendency of the surface of metal to corrosion. This compound is for use on all industrial, steel, or metal parts and mechanical equipment, such as pipe lines, oil field storage, refineries, absorption plants, structural steel, wire-cable, warehouse material, pipe, casing, tubing, or fittings.

"Solrite" is a heavy liquid manufactured for the sole purpose of being used in steam boilers. It is said to reduce scale to a soft form which can be blown off, thereby eliminating the possibility of bogging the boiler. It prevents the accumulation of scale, pitting, and foaming.

"Deflect-O-Lite" is a new aluminum paint, made from a scientific combination of ground polished aluminum running over a 99 per cent pure and a technical solution. This paint is recommended for coating steel storage tanks, water tanks, tank cars, oil lines, hydrants, steam lines, metal buildings, metal roofing, stillheads, boilers, smoke-stacks, gas holders, or any all-metal surfaces. The paint is protection against corrosion. It deflects the solar heat and keeps the surface cool and reduces evaporation. One gallon will cover between 600 and 800 square feet.

"Kontite" is a water-proof paint that sticks to cement. It is manufactured from Portland cement and is a practical paint to use on stucco, concrete, brick, or plastered surfaces. It is shipped dry, and mixed with water before it is applied, just as Portland cement is used. This paint is especially recommended where dampness is prevalent, since it is water-proof.

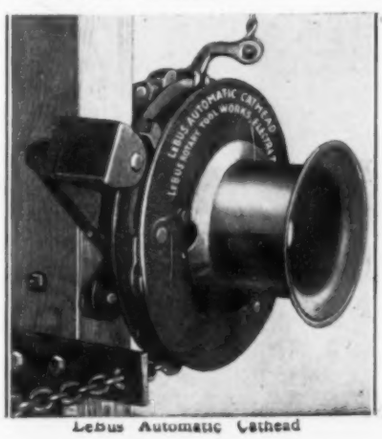
Additional information with literature on all these products can be had upon application to The Sullivan Company, Memphis, Tennessee.

## LeBus Automatic Cathead Recommended for Safety

An automatic cathead highly endorsed because of its safety features is now being manufactured and marketed by the LeBus Rotary Tool Works, Electra, Texas.

In drilling deep wells catheading is the recognized method of breaking and making. This is because catheading is the positive method.

In this operation, the hazard is great, however. Many fatalities have occurred because the rope on the cathead slipped or broke.

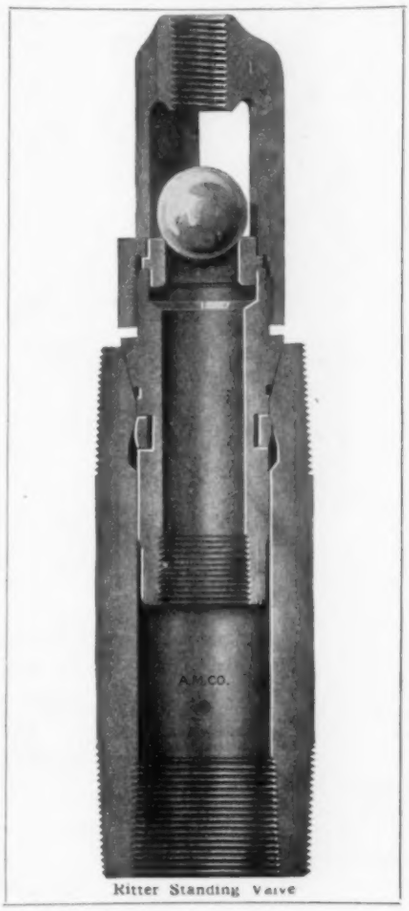


LeBus Automatic Cathead

In the LeBus Automatic Cathead, control is in the hands of the driller. When the two pairs of long handled tongs, one break out and one back up, are latched on the joint, the driller pulls the control chain and the break is made instantly. The driller then throws in the rotary clutch and the joint spins out with no strain on the pipe or rotary.

This device makes and breaks both easy and hard joints with equal facility.

Additional information will be furnished upon request by the LeBus Rotary Tool Works, Electra, Texas.




Ritter Standing Valve

## Ritter Standing Valve Adapted to Axelson Pumps

Axelson Machine Company, Post-office Box 337, Los Angeles, California, is featuring the Ritter standing valve, adaptable to installation in Axelson pumps.

It is said that the valve embodies a new principle in valve construction. The holding-down effect is brought about by means of a lock ring which extends into a tapered groove in the standing valve barrel when the barrel is seated. The tapered part of the body at the extreme upper end of the valve effectually seals the lower or guiding portion from sand deposits. The obtuse angle of the taper eliminates the possibility of sticking.

Additional information about the valve can be had from the company.

**H-E TOOLS**

# Reversing Tools and Casing Cutters

*Insure Satisfactory Service*

These tools were developed after years of actual contact with all kinds of difficult fishing jobs by experienced engineers.

Coupling for drill stem connection rotates to right.

Note powerful hinged wings. When turned to right open and anchor to casing—causing

The lower part to operate to the left, recovering stuck or twisted off pipe and casing.

**Can be released at will. Will operate with strain on pipe. Has wide range of adjustment. Makes left-handed pipe unnecessary. Successful operations prove statements.**

**When you find it necessary to use left-handed pipe, save the expense and use the EDWARDS REVERSING TOOL.**

*Save the Casing Seat!*
*Dont Risk Side Track!*

**Use an Edwards Cut and Pull Inside Casing Cutter and avoid water troubles. Cuts and pulls at one trip.**

**No mandrel—Use drill stem only.**

REVERSING TOOLS, INSIDE CUTTERS, OUTSIDE CUTTERS, SPEARS, JARS, OVERSHOTS, TAPER AND BOX TAPS, FLOW TESTERS AND OTHER SPECIALTIES.

**At Your Supply Store**

## HOUSTON ENGINEERS, Inc.

Phone Preston 1927 — Night, Taylor 1996
Postoffice Box 276
HOUSTON, TEXAS

**H-E TOOLS**

**H-E TOOLS**

# Spears, Overshots and Flow Testers

Can Rotate with strain, more pull, more grip. Can release at will. No adjustments to make.

*The flow test is the only reliable test.*

Don't buy casing until the well is flow tested with an Edwards Flow Tester.

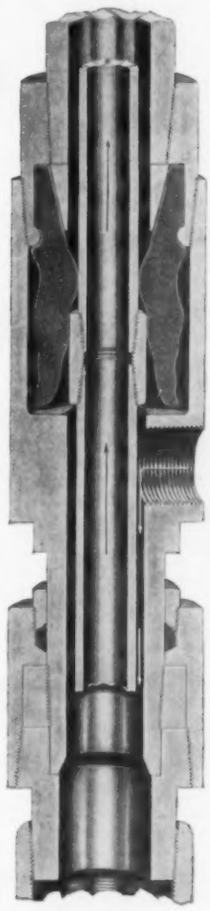
Position of slip when released.

Large Pipe Connection to run over blank joint.

Position of slip when in contact with pipe collar; slots in line with keys.

Slip held up by keys in released position.

Interchangeable Shoe



Blow-out Preventer

Mud Pump Connection

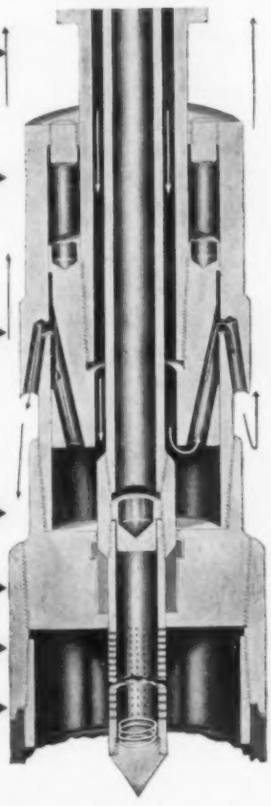
Top Swivel Joint

This above Rotary

This near bottom of well

Interlocker

Lower Swivel Joint with wash-out holes



Knockout Plug

Left Hand Thread

Perforated Joint

Any Standard open hole packer such as disc or wall hook.

At Your Supply Store

**HOUSTON ENGINEERS, Inc.**

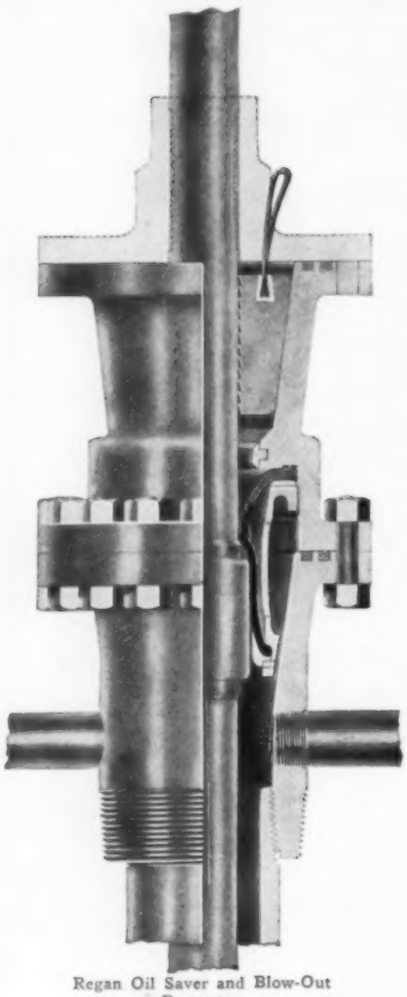
Phone Preston 1927 — Night, Taylor 1996

Postoffice Box 276

HOUSTON, TEXAS

ALL PRODUCTS SHOWN IN THIS AD PATENTED OR APPLIED FOR

**H-E TOOLS**



Regan Oil Saver and Blow-Out Preventer

## Two Improved Types Blow-Out Preventers

Two types of improved blow-out preventers have recently been put on the market by the Regan Forge and Engineering Company, San Pedro, California.

One of these is known as the oil saver and blow-out preventer, as it prevents oil overflowing on the derrick floor. It is recommended for running tubing against pressure. This type of saver is mounted on the tubing head body and is equipped with an upper flange which allows the quick installation of a tubing packer top flange which is sometimes necessary to prevent blowouts. After the oil saver has served its purpose it can be removed from the tubing head body and a tubing head top flange installed in its place. The oil saver can then be used elsewhere. This device is produced to accommodate three-inch tubing, but can be bushed to fit two-inch or two and one-half inch.

The drilling blowout preventer is for the purpose of giving the operator instant control of the well. The device consists of a body, cap, rings and slips. Two split steel rings may be hung on a Kelly within reaching distance and can be dropped down and joined within a few seconds. The device is quickly locked in the head by one-quarter turn of the cap.

More information on both pieces of equipment can be had by writing the company.

## Flanged Construction Is Gantz Tank Improvement

An outstanding improvement in Gantz tanks manufactured by the Gantz Tank Company, Sapulpa, Oklahoma, is the flanged construction principle that not only positively insures a tight joint, but also prolongs the life and serviceability of tanks for all kinds of field use.

The flanged construction principle is applied both to the top and bottom of all Gantz tanks. This has the effect of giving reinforced joints where strain is greatest and where tightness is most essential. Another feature of the Gantz tank is that it has all bolts in sheer stress and not a single bolt in tensile stress.

Gantz tanks are accurate as to measurement, thereby affording easy and rapid assembling or dissassembling for removal to some other location. They are made with single and double staves which means that by the purchase of an additional top and bottom, two tanks can be made from a double stave tank.

Gantz Tank Company, Sapulpa, Oklahoma, will supply further information.

## Electra, Texas, Concern Offers Special Tool Joint

A special tool joint is being announced by the U. S. Machine Shop, 501 East Cleveland Avenue, Electra, Texas.

The tool joint box stands 21½ inches high and is made of regular tool joint steel, high in manganese, which insures the desired brazing and toughness.

The tool joint pin is the same length as an ordinary tool joint pin.

Teeth are milled to shape in a milling machine and then heat-treated to stand the necessary use.

More complete information can be had upon application to the company.

Drilling Blow-Out Preventer

## Superior Swab Added by Oil Country Specialties

The Oil Country Specialties Manufacturing Company, Coffeyville, Kansas, has recently added a new swab to its line of products. This swab is called the Superior.

It is designed for swabbing the casing above the liner, in a well so equipped.

When the tools have entered the liner, the Superior swab stops at the top of the liner, the tools proceeding to the bottom. As the fluid reaches the liner top, it passes through the Superior swab into the casing, and when the tools reach the liner top, they pick up the swab, which automatically checks the fluid in the casing, bringing it to the top of the hole. The swab maintains a suction from the bottom of the liner to the top of the hole.

For further information, address the Oil Country Specialties Manufacturing Company, Coffeyville, Kansas.

O. C. S. Superior Swab

## Titusville Forge Offers Tivan Vanadium Steel Jar

The Titusville Forge Company has introduced to the oil trade a new jar known as the Tivan Vanadium Steel Jar.

These jars are constructed of a special grade Vanadium steel, developed after careful experiments and tests exclusively for this purpose. Billets are carefully chipped and thoroughly inspected to remove any possible surface defects and are then subjected to chemical analysis.

Forging temperatures are electrically controlled by pyrometers, insuring a perfect forging heat. The jars are reduced from a billet four times greater in sectional area than the largest finished section. Double heat treatment removes forging strains and gives the maximum grain refinement, assuring high wearing and resistance to breaking.

More information can be had from the Titusville Forge Company, Titusville, Pennsylvania.

Brown Welding & Machine Company's Underreamer

## Brown Underreamer Radical Departure

Brown Welding & Machine Company, Breckenridge, Texas, it now putting on the market its latest tool, the Brown Underreamer. This piece of equipment, according to the manufacturers, is a radical departure from the usual type of underreamer. Its chief points of construction are given below:

It has three cutters instead of two. The combined circumference covered ranges from 210 degrees to 255 degrees in the different sizes.

The cutters hang in the lower end of the body on an assembly ring that is stationary instead of sliding up and down on a key or mandril.

The cutters are moved into their cutting position after the tool clears the shoe by a hardened cone that is welded solid on the nickle steel mandril that carries a coiled spring. The cone slides upward into a corresponding bore in the cutters and keys the cutters solidly into the bottom of the reamer body.

The bottom of the body is a cylinder with a plain end.

As the cutters stand still while working there is hardly any wear on shanks of cutters, body, or mandril cone but such as does occur is immediately taken up by the spring tension on the cone. All wear on cutter shanks or inside of body causes the cutter edges to move outward therefore an old cutter is a little easier to dress to gauge than a new one. This wear tends to keep the cutters to gauge.

The lower or cutting ends of the cutters are circular inside and out. In dressing a cutter the stock is driven from the inside outward to the cutting edge. This causes all the material to be used up in the cutting edge, keeps the cutting edge at a proper angle, enables the cutters to be heated quickly (and avoids burning the carbon and alloyed metals out of it), reduces the labor of dressing more than half, and greatly reduces cutter expense.

Cutters are of the "round nose chisel" type so that they cut their "bite" out at each blow.

Owing to the fact that more than half of the entire circumference of the hole is covered by the cutters at each stroke of the underreamer, it is practically impossible to "key seat" a hole. This enables the driller to make good time without danger of "hanging" his reamer up.

As the cutters are freed to enter the pipe by bumping the rider against the shoe and driving the cone from between the cutters, chances of losing cutters in entering the pipe, are eliminated.

Additional information may be had from the company.

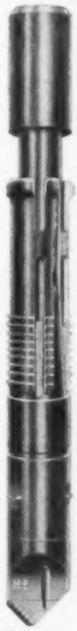
## Casing Cutter Combined With Reliable Grapple

A Casing Cutter combined with reliable grapple that pulls the cut off section of casing at the same trip the cut is made has been designed by Chas. R. Edwards, president of the Houston Engineers, Inc., of Houston, Texas.

The cutters, of the well known wheel type, are driven out and withdrawn, by a reliable rack and gear movement. This type of drive also makes it possible to cut the smaller sizes of casing.

An interlock located between the casing grapple and the cutters controls the cutters that they remain inoperative while rotating and washing down. The interlock is released only when an upward strain is taken on the casing.

This, it is claimed, is a very important feature; the upward strain carrying the weight of the casing about to be cut relieves the cutters of the entire weight of the casing above. Thus cutter breakage is reduced to a minimum and the main objection to the use of casing cutters is overcome.



Houston Casing Cutter and Grapple

Provision is made to give the operator notice as soon as the casing is cut in two.

Ample provision is made to release the casing hold if more casing is cut off than can be pulled.

A new cut can be made by simply moving up or down to a new location and taking a new hold. This is accomplished without coming out of the well, there being no triggers or trips about this casing cutter that require hand resetting after a casing hold has been made.

A great deal of time and expense is also saved by being able to rotate down, wash down, cut and pull the cut off casing at one trip.

Further information will be supplied by the Houston Engineers, Inc., P. O. Box 276, Houston, Texas.

## Guiberson Multiple Sucker Rod Socket

The Guiberson Multiple Sucker Rod Socket, a new product of the Guiberson Corporation, Box 1106, Dallas, Texas, has been designed to take care of all rod trouble that might possibly arise on a lease.

Guiberson Multiple Sucker Rod Socket

This socket consists of a bowl, four shells with slips and a top connection. Each set of slips has an individual spring and is capable of taking at least two sizes of rods or boxes. This gives practically eight complete sockets combined into one neat, handy fishing tool.

Each shell of the sucker rod socket is interchangeable with the other. Each set of slips for a certain size socket fits into any of the shells and can be changed or replaced by simply unscrewing one thread. This insures quick replacements.

The slips are made of the best grade of steel, properly heat treated and hardened to give maximum wear and service.

More complete information can be had from the company.

## Hercules Tubing Anchor Catches Where Desired

The Hercules tubing anchor being manufactured and sold by the Hercules Tool Company of Tulsa, Oklahoma, is a device that is primarily a support designed to engage with the casing at any selected point along its length, and eliminate the stripping of threads and parting at the coupling.

The operation of the Hercules tubing anchor is on simple principles. It is attached to the tubing at any point, preferably near the bottom of the casing. The anchor is set by turning the tubing one-third turn to the left, thereby placing the slot pin over the vertical slot in the cage, and allows the body of the anchor to slide down into slips. The jaws are expanded until they engage with the walls of the casing.

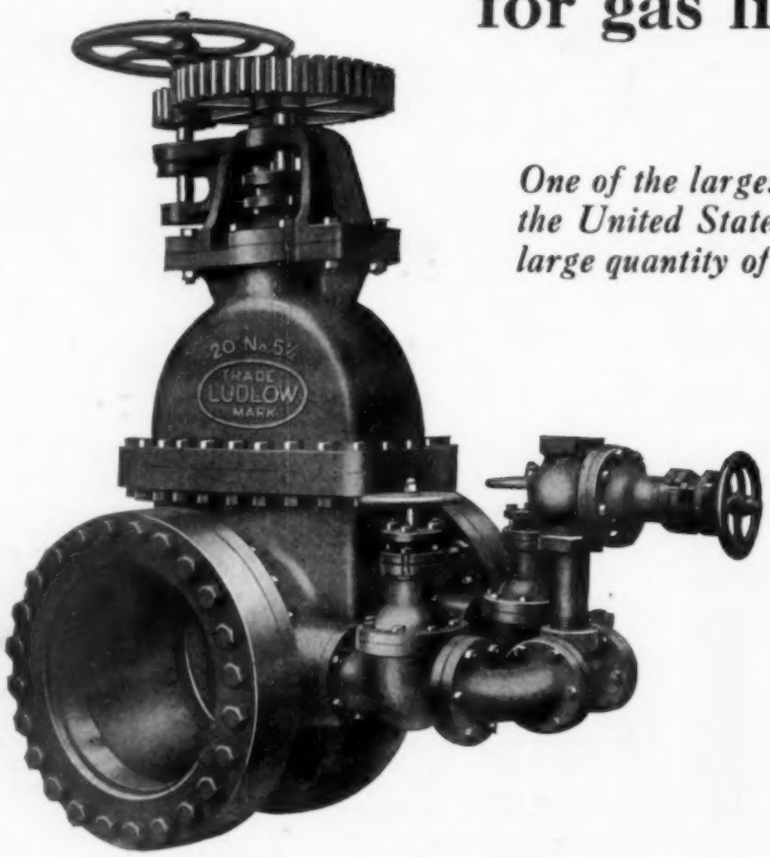
The Hercules tubing anchor also acts as a safety device as a means of preventing any accident that might occur while the tubing is being removed from the well.

More information can be had by writing the company and requesting the same.

# Look At This Ludlow

## Here is a 20-inch, 600-pound TEST

# LUDLOW
## DOUBLE GATE VALVE
## for gas lines




*One of the largest Gas Companies in the United States recently ordered a large quantity of these valves.*

**No matter what your valve requirements are you can rely on LUDLOW to take care of your needs.**

**Note—Our 1925 Catalog is now being distributed. If you have not received your copy write our nearest office and request that one be sent you.**

# The Ludlow Valve Mfg. Co.

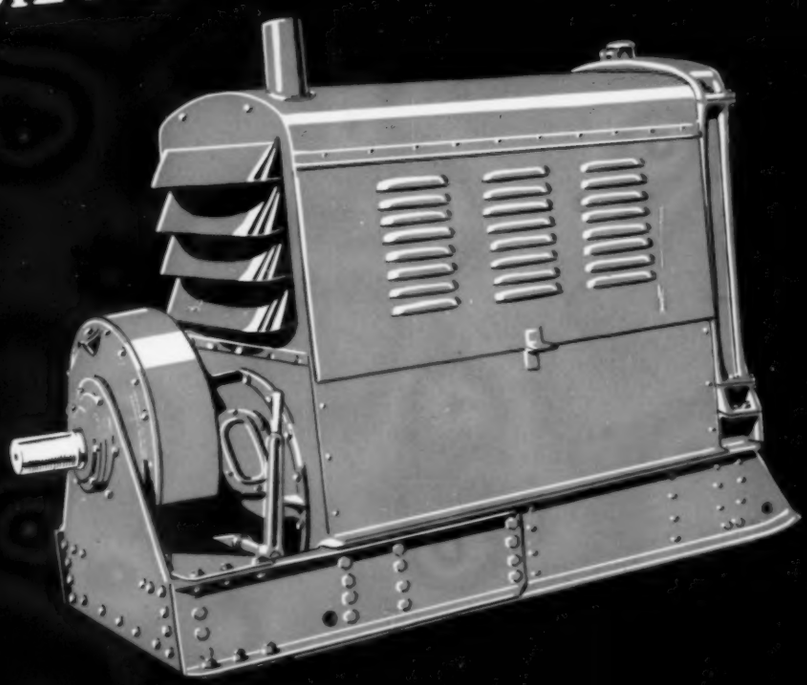
(Established 1869)

**Factory: Troy, N. Y.**

**Branch Offices: Kansas City, Mo.; Chicago, Ill.; Pittsburgh, Pa.; Boston, Mass.**

*A Book Which Every Practical Oil Man Should Have*

# Waukesha
## Ricardo Head
## OIL FIELD POWER UNITS



OIL FIELD BULLETIN
NO. 4125

WAUKESHA MOTOR COMPANY
WAUKESHA WISCONSIN

*Field Testing New Waukesha Oil Field Pumping Unit*

# TO BE UNVEILED at the PETROLEUM EXPOSITION

**Waukesha will present two new and important developments during the International Petroleum Exposition. 1.—A Waukesha Oil Pumping Outfit, and 2.—A Waukesha-built, two-speed-and-reverse-gear Power Unit for cable drilling. Every progressive oil man should be sure to see these two units which will be outstanding features during the exposition.**

*If you fail to see the new Waukesha developments at the Exposition Space 9-10 Ohio Building, we will be very glad to send you full information on receipt of your request.*

## WAUKESHA MOTOR COMPANY

Waukesha, Wisconsin

| New York City | Hartford | Kansas City | Denver | Tulsa | Houston |
|---|---|---|---|---|---|
| *Aeolian Building* | *K. B. Noble Co.* | *V. L. Phillips Co.* | *Western Equip. Co.* | *C. F. Camp Co.* | *Portable Rotary Rig Co.* |

*Exclusive Builders of Heavy Duty Gasoline Engines for Nearly Twenty Years*

Large Grease Gun

## New Equipment Added To Layne & Bowler Line

Layne & Bowler Company, Houston, Texas, has developed during the past year a few new specialties that have direct application in the oil industry. Descriptions of this equipment are given below:

### Layne Lead and Canvas Double Seal Ratchet Packer

This double seal packer has three accurately machined beveled lead rings above the canvas packing. When the canvas packing has been set to almost iron hardness, it forms a seat for the lead rings which are then pushed down and outward, due to their beveled shape, thus forming an independent seal above the canvas.

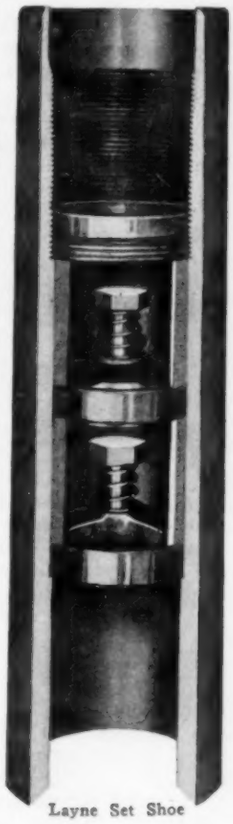
Should the canvas packing be damaged in setting, the lead rings will make the seal just the same and prevent leaking or flowing by the packer.

Layne Back-Pressure Valve

### Layne Cone Seat Heavy Back Pressure Valve.

A wide departure from conventional valve construction is embodied in the Layne Cone Seat Heavy Back Pressure valve, inasmuch as the stems and springs are on top of the valve.

The shape of this valve with its cone seat makes it difficult to be held open by grit or sand. The valve is solid, therefore there is no chance for it to leak around the center. The valve is made to fit all sizes of pipe and casing couplings.



Layne Set Shoe

### Layne Seamless Steel Set Shoe

The Layne Seamless Steel Set Shoe is a short one-piece shoe for installing one or two back pressure valves and cone shaped screw wash ring.

This shoe is made of heavy seamless steel and is approximately 18 inches in length. Any type back pressure valve can be used in this shoe. The shoe will fit all sizes and kinds of pipe and casing.

### Layne Grease Gun

The Layne Grease Gun is a specially heavy made brass grease gun, built to stand rough usage and to successfully handle all kinds of grease against high pressure.

Layne Ratchet Packer

It is fitted with a one-half inch pipe connection.

More information on any of this equipment will be mailed upon request to the company.

## Baker All-Metal Pitman Designed to Stop Breaking

Experience in the fields has shown that seldom if ever is the bracing on a Pitman strong enough to withstand an accidental blow from the wrist pin. The new improved All-Metal Pitman has been designed to overcome this difficulty. This new Pitman is being manufactured by the Baker Casing Shoe Company, 803 East Slausson Avenue, P. O. Box 264, Huntington Park Station, Los Angeles, Calif.

Baker All-Metal Pitman

The upper part of the Pitman has a hardwood block firmly clinched between the five-inch I beam, which permits fitting any stirrup with little trouble.

Maximum strength is assured in the construction of the I beam.

The body is made of electric steel fastened to the I beam by means of eight three-quarter inch turned steel bolts, four bolts securing the prongs which extends upward on each side of the web of the I beam, and four bolts fastening the body to the flanges and fitting the handle to the Pitman as well.

The upper part of the bearing is of grey iron and is provided with an oil or grease pocket which does away with the necessity of constant attention. This part of the bearing is brought against the wrist pin at the operating position by forcing the key in where it is held by its taper and a ratchet pawl. A set screw is also provided for use when there is an extraordinary strain such as a jarring job. The key or wedge is also of steel and cannot come out unless intentionally taken out by removing the steel cap from the small end. The lower part of the bearing is made of hard Babbitt and of a thickness to allow for three-eighths-inch wear. This bearing can be repoured when necessary.

## Universal Grab Is Latest Bridgeport Fishing Tool

The Universal Grab is the Bridgeport Machine Company's latest development in a fishing tool for either rotary or cable tools, designed to recover small irregularly shaped objects lost in the hole, such as pieces of broken off bits, socket slips, underreamer cutters, rotary drilling cutters, etc. As is shown in the illustration, the jaws of this tool extend below the end of the body proper so that they may be driven over the object being fished for without injury to the fishing tool. It approaches the lost object with its jaws fully extended or wide open and automatically closes and grips the lost object as soon as the jaws are forced down over it.

Bridgeport Universal Grab

The jaws cannot open wider than the diameter of the body of the tool. So that where the object being fished for is in a hole greater in diameter than the casing above it, there is no possibility of getting the tool stuck on account of widening of the jaws. It is so designed that its hold increases in proportion to the weight of the object gripped, and is strong enough to dislodge the object if it is stuck.

The Universal Grab is simple in construction and operation and will not foul in mud. When fishing in the rotary hole with drill pipe, constant circulation may be maintained. By the use of different shaped jaws and different lengths of extensions which are furnished with the tool it is universal, for, with the one body, it can be adjusted to recover anything which may be lost within the size hole for which the tool is constructed.

Additional informatoin may be had upon application to the Bridgeport Machine Company, Wichita, Kansas.

## Federal Supply Company Announces Belt Clamp

A belt clamp said to end clamp troubles is announced by the Federal Supply Company, Fort Worth, Texas.

This clamp is designed with a curve on the face to correspond with the crown on the belt pulley, thereby preventing side slip on the pulley and keeping the belts from sliding on the shoes of the clutch.

A "liner" is inserted between the clamps. This "liner" holds the belt firmly against the curve on the outside clamp, and forms an uninterrupted curved surface fitting snugly against the curve of the pulley.

The material used in these clamps is pressed steel, drilled and fitted with 5/8-inch heat-treated steel bolts and lock washers.

More data will be provided by the company upon request.

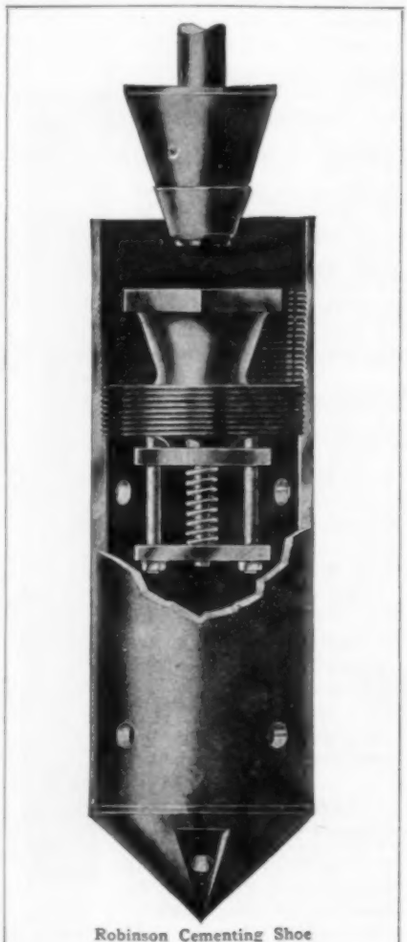
## Robinson Tool Company Has New Cementing Shoe

The Robinson Tool Company, Inc., of Tulsa, announces the introduction of a new cementing shoe that they claim can be used either with or without tubing. The shoe also will not allow the cement to return to the inside of the casing when once forced to the bore of the well.

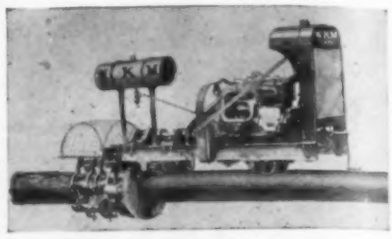
The shoe is complete within itself and requires no other devices or processes for its operation. It can be used either firmly set on bottom or raised a few feet as desired in case of a tight hole. The bottom guide is used to guide the pipe to the center of the hole and to keep the interior of the pipe practically free from cavings or other obstruction. It is also equipped with four conical shaped holes for the outlet of the cement or fluid.

The valve screws into the top of the shoe below the casing and prevents the return of the cement to the inside of the casing when once forced out to the bore of the well. It also contains an inverted cone or female connection so that the tubing may be used direct from the top of the well to the valve if so desired. There is furnished with the shoe a cone or male connection with a lead seat that engages the female connection on top of the valve. This makes a tight joint and is pulled with the tubing when tubing is used.

The shoe is of drop-forged steel and the bottom guide and back pressure valve are of soft grey iron which are easily drilled up. Further information may be obtained from the company direct.



Robinson Cementing Shoe



W-K-M Pipe Cleaning Machine

## Pipe Cleaning Machine Automatic in Operation

Unusual interest has been manifested in a pipe cleaning machine recently perfected and put on the market by the W-K-M Company, Houston, Texas. The function of this machine is to take the place of hand labor in cleaning the outside of pipe either in single joints or in made-up pipe lines.

The machine operates mechanically and is said to clean every particle of rust and scale off the pipe. The cleaning is done by a series of sharp-toothed cutting wheels which are revolved rapidly around the outside of the pipe. These sharp-toothed cutters pulverize the rust and scale and break it off the pipe in small particles about the size of cornmeal.

A series of brushes then clean off all of the loose dirt and leave the pipe absolutely free from scale. Even the pits are cleaned out thoroughly and the pipe is cleaned just as well on the bottom as on the top. Provision is made so that the revolving head automatically expands to go over ordinary screw couplings which are cleaned just as well as the balance of the pipe.

A light weight gasoline motor operates the machine by revolving the cutting head at the rate of from 100 to 120 revolutions per minute around the pipe. At the same time the machine travels along the pipe line which has been raised up out of the ditch and put on four by six skids.

When the machine comes to a skid, the line is raised by a pole or a winch and the skid is moved from in front of the machine and put in directly behind it so that the machine is not stopped in its traveling along the pipe line to change skids.

The machine is made with variable

travel speeds so that where pipe is easy to clean, it can be made to travel as much as 20 to 30 joints per hour. On the other hand if the scale is very hard, the travel speed can be reduced so that as few joints per hour can be cleaned as is necessary to do the very best work. The nominal travel speeds of the machine range from two to ten feet per minute. The travel speed is controlled entirely separately from the speed of the cleaning hand which rotates uniformly at from 100 to 120 revolutions per minute.

The machine may be used very satisfactorily for pipe yard work by blocking up the machine and feeding the single joints of pipe through it by hand. This is fully as satisfactory as when the machine runs along the pipe-line.

In cleaning pipe lines, it is not necessary to shut down the pumps as the machine does not endanger the line in any way. In a majority of cases the lines are being operated at capacity during the time they are being cleaned and insulated.

For further particulars, communicate with the W-K-M Compnay, West Building, Houston, Texas.

## Willis Brothers Pitman Takes Jar From Machine

Cable tool operators in Kansas are using a shock absorber wire line drilling pitman, being marketed by Willis Brothers, Chanute, Kansas, with much success.

Special features of the pitman as outlined by the manufacturers, are as follows:

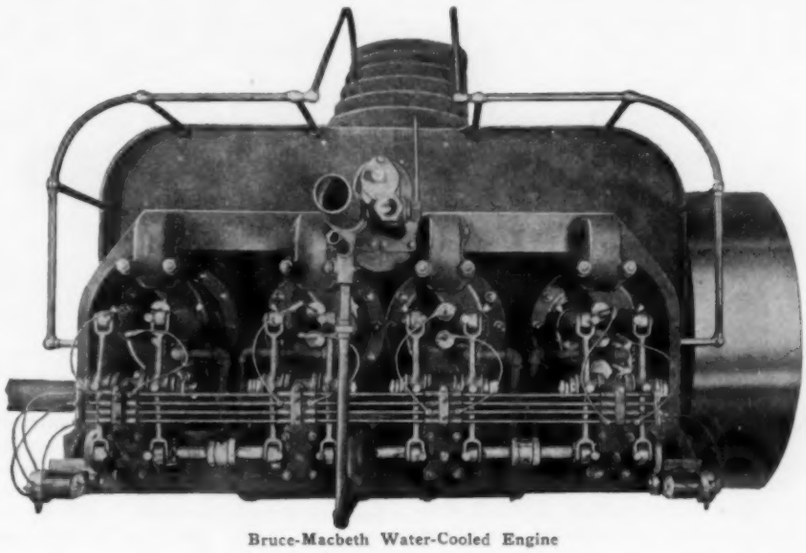
The pitman takes up the jar from the drilling machines, making the wire line used in drilling have the same effect as manila rope.

Since no strokes are lost because the pitman reaches for bottom just as a rope, about one-third more hole can be made with the use of the pitman. It also takes the dead jar off the machinery and saves the machinery from getting out of line.

Rebound springs on the shock absorber eliminates any bouncing in the pitman and are largely responsible for its success.

Willis Brothers, Drilling Contractors and Producers, Chanute, Kansas, will supply additional information on request.

Shock Absorber Wire Line Drilling Pitman



Bruce-Macbeth Water-Cooled Engine

## Houston Pump & Supply Hold-Down Casing Head

Houston Pump & Supply Company, Carr and Leona Streets, Houston, Texas, has announced a new hold-down casing head designed for use with the French gas-tite tubing anchor, also manufactured by that company.

This casing head is made entirely of steel forgings and steel castings.

Use of the casing head in conjunction with the anchor insures an absolute tight seal at the top of the well. Tops for the casing head are made of steel forgings and are grooved to fit square packing, either flax or hydraulic.

In addition to set screws, such as are found in the ordinary type of casing head, this one has four or six heavy forged steel bolts with extension heads which can be adjusted to fit the usual attachments.

When releasing the part being held, it is only necessary to loosen the nuts on the bolts one or two turns. The bolt heads can then be turned one-half turn, leaving the top of the head clear.

This casing head is made regularly in all sizes and fits all threads up to and including 10-inch casing.

Additional information will be supplied upon request to the company.

## Bruce-Macbeth Engine Has New Cooling System

The Bruce-Macbeth Engine Company, Cleveland, Ohio, announces a water-cooled engine of increased cooling efficiency, but with no water jackets.

The engine operator can observe the circulation of water at all times and can, therefore, remove scale that will form from bad water.

This improved construction eliminates the formation of steam or air pockets that interfere with the cooling system in a water jacketed engine.

Adjustments on the engine can be easily and quickly made.

More information can be had from the company on request.

## Waters Gauge Cock of Non-Corrosive Metal

Of interest to field boiler men is the new Waters Gauge Cock, one of the new specialties introduced by the Smith Separator Company, Tulsa, Oklahoma.

This gauge cock is equipped with a non-corrosive Monel metal nozzle—a nozzle that remains free from corrosion since it is not affected by excessive temperatures.

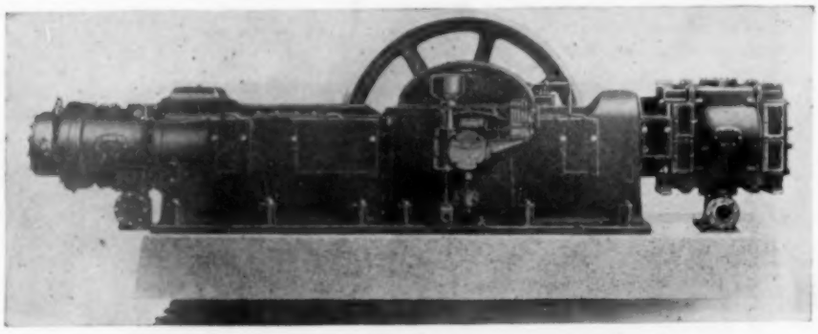
The gasket is reversible, with thirty seats on each side, giving double the number of any other type of gauge cock on the market.

The handle of the gauge sets at an angle of 45 degrees so that when it is used to test the height of water in the boiler the steam and water are admitted directly to the air and not deflected back against the head of the boiler.

The only wearing part is the gasket, and since it is reversible with double the usual number of seats, the life of these gaskets is very long.

More information can be had from the company.

Waters Gauge Cock



Single Cylinder Bessemer Type Ten Compressor Showing the New High-Efficiency Compressor Cylinder

## New Cylinder Improves Bessemer Compressors

For several years Bessemer engineers have been experimenting with and thoroughly testing an improved compressor cylinder that incorporates improvements and practical features that every compressor user will be quick to appreciate. In the perfecting and proving of this new cylinder neither time nor expense received consideration, and it is now offered to the compressor using public as a thoroughly proven unit, into which has gone several years of engineering effort, constant experimenting and thorough testing under the most severe conditions under which a gas or air compressor is called upon to perform.

The outstanding points of this new type of cylinder are: Its practicability, accessibility, the ease with which cylinders can be changed from larger to smaller diameters, its general sturdiness, and, above all, its extreme high volumetric efficiency.

The cylinder proper consists of three separate sections: The bed end, head, which also carries the connecting hood, the barrel or central part with its companion flange and stool, and the outer end head.

It will be readily seen that by this arrangement, in case of accident, if any part of the cylinder becomes damaged, that part only is affected instead of the complete cylinder being a total loss.

If a unit is ordered for a certain condition calling for, say 14 1-4-inch cylinder, and those conditions change so that a larger cylinder could be used, the purchaser has an option of seven different sizes of barrels to fit the original heads, by steps of 1-4-inch up to a 16-inch barrel, and there is no liner with a possibility of leakage into the water chamber or any other place.

Each series of heads is designed to conform to any size barrel within a range of two inches diameter; the valves and ports are designed and proven for the capacity of the largest size barrel of any series, thus giving minimum back pressure when the cylinder is working at its greatest capacity. All sizes of cylinders are designed with exceptionally roomy water jackets, which are made accessible for cleaning by large removable plates on both sides of cylinder, as shown in cut.

From 10-inch diameter to 30-inch diameter all valves are in the head and directly within the bore of the cylinder, giving a direct ingress and egress of the gas; with no sharp corners or narrow space to force the gas around and through—all of which sets up eddy currents and harmful friction loss.

In the cylinders below 10-inch diameter, at the head end the valves are placed at the side of cylinders, top and bottom, by reason of space taken up by the piston rod. The valves overhang the head in liberal proportion, in order to give ample port capacity for free passage of gas without undue friction.

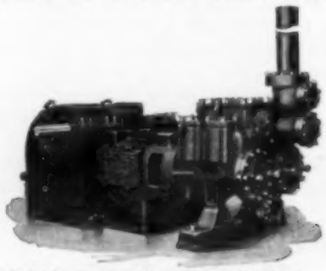
All valves are of the thin disc type, made of the best grade of spring steel obtainable for this class of work, designed to stand up indefinitely under continuous impact with high difference of pressures and suitable for a high number of revolutions per minute.

The valve bodies are seated in the head plates with a taper joint and give a perfectly gas tight fit, requiring only a very slight pressure on the tension screw to seat the valve body properly. An eight or ten inch wrench is used for this purpose.

The tension screw is threaded through the cylinder head and covered on the outside with a cup which is in turn seated on a copper gasket to prevent leakage around the threads of the tension screw.

To hold the valves in place the tension screw presses on a crow foot, which in turn rests on the rim of the valve body directly over the taper joint. This eliminates any possibility of distorting any part of the valve or valve cage by unnecessarily heavy pressure from the tension screw.

By removing the side plates over the valve chamber, all valves are exposed to view and are easily and quickly removed by a special tool furnished for this purpose. By placing the valves directly in the head of the cylinder and all within the cylinder bore, the clearance is reduced to a minimum.



4½x12, 5x12, 5¾x12, 6¾x12 Senior Booster—Water End Designed for 1000 lbs. Pressure.

It has been found by actual orifice meter measurement, and by using mercury gauges for intake and discharge pressures, that the volumetric efficiency at, say, five compressions, where air was being compressed, was consistently 87 per cent. When the ratio of compression is lower, the volumetric efficiency is proportionally higher.

The Bessemer Gas Engine Company, Grove City, Pennsylvania, will supply further information.

## Williamsport Wire Line Markers Show Strength

The marking of the various grades of Williamsport wire rope, manufactured and sold by the Williamsport Wire Rope Company, with oil country sales offices in Tulsa, and factory in Williamsport, Pa., so as to indicate the exact tensile strength of the wire line is an improvement that has been made in order to better enable the company to guarantee the quality of its products.

WILLIAMSPORT

A specially constructed tape is used for the marking and is woven into and throughout the hemp core of the rope. This tape states the grade (tensile strength) of the line in plain English. This tape or marking cannot be separated from the line no matter how often it changes reels of tags. The trade name for this feature of Williamsport wire rope is "Telfax tape marked—Factory certified."

Williamsport wire lines are made for all drilling purposes and complete stocks are maintained to meet every field requirement. Further information may be obtained by communicating with the company direct.

## Gardner Mud Pumps Have Improved Lubrication

An interesting departure in method of lubricating rocker shaft stand and levers of a mud pump was made by the Gardner Governor Company, of Quincy, Ill., during the past year. A method similar to that used for lubricating axles of railway cars was adopted, small packing boxes being located at the proper points. Lids of these are raised in an instant and packing oiled, and one oiling will suffice for several days. The method has proved highly practical and time and labor saving.

A number of other improvements have been made in Gardner Mud Pumps. The Gardner Senior Booster adopted a larger size of steam cylinder, namely, 14-inch diameter. All Gardner Junior and Senior Booster Mud Pumps are now built for 1,000 pounds working pressure.

Further information can be had from the company.

# *Gangway—we're* on a breakdown job!

MIGHT have known that this Westinghouse Mobile Arc Welder would soon come rolling into one of these ads! How could it help it when it's pulled and powered by a tractor that's got a reputation for getting anyplace?

"Anyplace" with an electric arc welder spells big money saved in the oil fields.

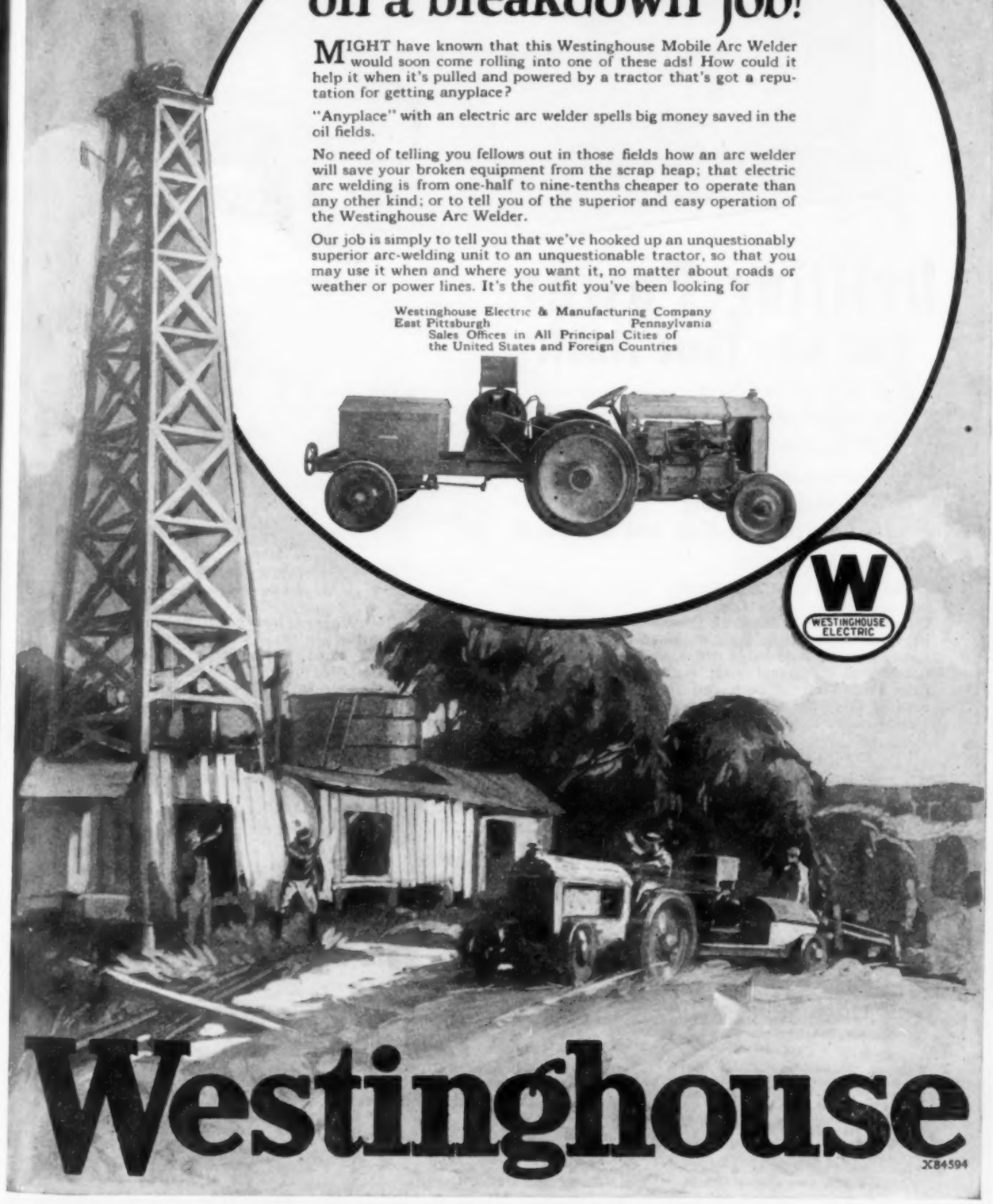
No need of telling you fellows out in those fields how an arc welder will save your broken equipment from the scrap heap; that electric arc welding is from one-half to nine-tenths cheaper to operate than any other kind; or to tell you of the superior and easy operation of the Westinghouse Arc Welder.

Our job is simply to tell you that we've hooked up an unquestionably superior arc-welding unit to an unquestionable tractor, so that you may use it when and where you want it, no matter about roads or weather or power lines. It's the outfit you've been looking for

Westinghouse Electric & Manufacturing Company
East Pittsburgh Pennsylvania
Sales Offices in All Principal Cities of
the United States and Foreign Countries

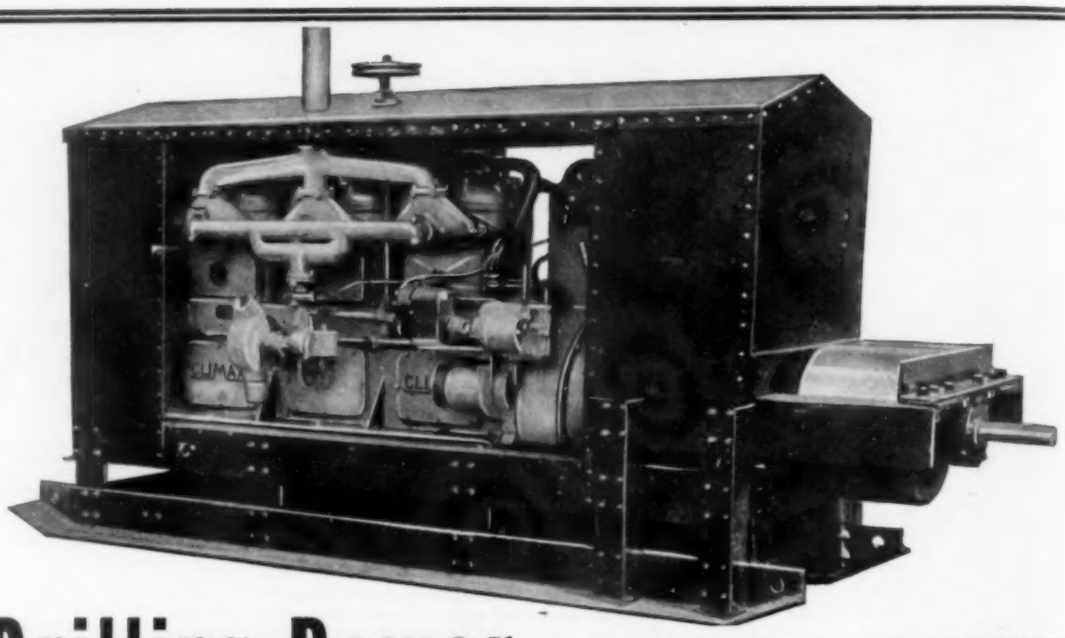


W WESTINGHOUSE ELECTRIC



# Westinghouse

XB4594



# Drilling Power
## That Gets There FIRST!

—Easier to Move
—Quicker to Set Up
—Simpler to Operate
—Surer in Service
—Faster in Drilling
—Low in First Cost and in Operating Expense

The Climax R U Oil Drilling Unit is complete, self-contained, ready for service. It consists of Climax 6-cylinder 6" x 7" Gasoline Engine and a heavy-duty disc clutch, all enclosed in a steel plate housing with removable sides and mounted on a hot-riveted structural steel frame with lower side rails turned up at each end to form runners for ease in skidding.

Equipment consists of electric starting motor and generator, 150 ampere hour battery, air cleaner, carburetor, built-in governor with "telegraphic" control line, water pump, vacuum feed gasoline tank, and connections for cooling water tank. Drive Pulley 17" diameter with 13" face. Side doors can be closed and padlocked, leaving only pulley and starting crank outside the hood.

*Illustration above shows how conveniently the Climax Oil Drilling Unit may be transported by truck.*

Length of Unit 130"; width 42"; height 61".
Weight complete approximately 5200 lbs. net.

*Write for Special Bulletin*

**CLIMAX** *Trade Mark Reg. U. S. Pat. Off.*

"Trustworthy" Oil Drilling Unit

## CLIMAX ENGINEERING CO., 51 W. 18th Ave., Clinton, Iowa

*Also Builders of Climax Refrigerating Units*

Mid-Continent Field Headquarters: Tulsa, Okla., Wells Hotel
Chicago Branch: 2007 Harris Trust Bldg., Chicago, Ill.

California Field Headquarters: Coast Machinery Corporation 464-66 E. 3rd Street, Los Angeles, Calif.

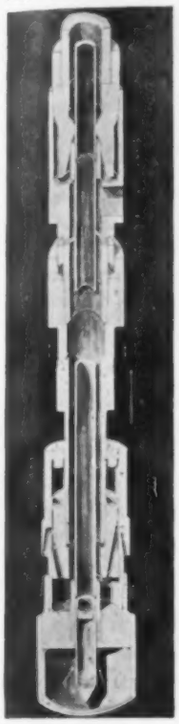
*Sales Offices and Stock of Parts also in the Following Cities:*

Birmingham, Ala.—Keiser-Geismer Engr. Co., 1308-9 American Trust Bldg.
Charleston, W. Va.—Beckwith Machinery Co., 311 Moore Bldg.
Chattanooga, Tenn.—Mills & Lupton Supply Co., 1146 Market St.
Dallas, Texas—W. A. Browning Machinery Co., 303-5 Exposition St.
Denver, Colo.—The Hendrie & Bolthoff Mfg. & Supply Co., 1621-39 17th St.
El Paso, Texas—Sheehan & Co., 1615 Basset Ave.
Houston, Texas—F. W. Gartner Co., 3315 McKinney Ave.
Indianapolis, Ind.—Carl Dunning Supply Co., 828 Lemcke Bldg.
Louisville, Ky.—Brandeis Machinery & Supply Co., 325 W. Main St.
Pittsburgh, Pa.—Beckwith Machinery Co., Corner Front & Brown Sts.
Portland, Ore.—Coast Steel Machinery Co., 1 Porter St.
St. Louis, Mo.—Tulley Equipment Co., 508-9 Title Guaranty Bldg.
San Francisco, Calif.—Edward R. Bacon, Inc., Folsom at 17th St.
Seattle, Wash.—Pacific Hoist & Derrick Co., 818 1st Ave., South

## Device Tests Stratum With Drill Stem in Hole

A device used on the drill stem, ot test the oil flow possibilities of any promising stratum while drilling, has been designed by Chas. R. Edwrads, president of the Houston Engineers, Inc., Houston, Texas.

In fact it is claimed that with this device the mud pumps can maintain the mud circulation through the rotating drill stem while the oil is actually flowing to the surface of the ground through the test tube from an oil bearing stratum at the bottom of the well.



Oil Tester for Wildcat Wells

The cut herewith shows the tester in vertical cross-section. The upper section is the blowout preventer swivel used above the rotary table. The pump connection is through a tee side opening just below the blowout preventer, and above the elevator connection which is immediately above the upper swivel gland.

The tester proper is shown in the lower part of the cut, and at the very bottom of the cut is shown a packer. This may be any suitable open hole packer such as is now on the market. Above the packer connection is the lower swivel. At the top of the lower part of the cut is the drill stem lower connection.

Two sections of the test tube are shown. For four-inch drill stem with standard tool joints, the test tube is usually of one and one-fourth inch tubing. At the lower end of the test tube is a section of perforated tubing with very small perforations. At the upper end of the perforated section of the inside of the test tube is a knock-out plug.

The bottom of the lowest test tube is beveled to make a tight joint in the lead seal shown at upper end of the perforated joint of the test tube.

Arrows inside the test tube show the mud circulation courses.

The packer is set and the test tube seated in the lead seal. This separates the well into two compartments.

The lower compartment can be opened into the test tube by dropping a light go-devil into the empty test tube breaking the knock-out plug at the top of the perforated bottom joint of the test tube. This is equivalent to instantly bailing the well dry so far as the lower compartment is concerned.

The oil and gas, if any, now being suddenly relieved of the enormous mud pressure can flow up to the surface through the test tube, giving the operator, it is claimed, positive knowledge of not only its presence, but its quality and quantity as well as the gas pressure, thus directing him how to prepare to handle the well in the proper way.

It is claimed that this device will shorten the time and very greatly lessen the expense of wildcatting and thoroughly test a lease as every foot of the hole can now be flow tested without setting screen and casing.

The test is made by actually flowing the oil from the well if present in the stratum tested.

It is also claimed that the time required to flow a test well in this manner is very little more than that required to run a core barrel, and the expense of this method is less than that of coring since from 50 to 100 feet of structure may be flow tested.

Additional information can be had from the Houston Engineers, Incorporated, P. O. Box 277, Houston, Texas.

## D. & B. Pump & Supply Adds New Items to Line

A number of new and improved items of equipment have been added to the regular line of oil field specialties handled by the D & B Pump and Supply Company, 301 W. Avenue 26, Los Angeles, California. These are briefly described and illustrated below:

### Fritts Rod Hanger

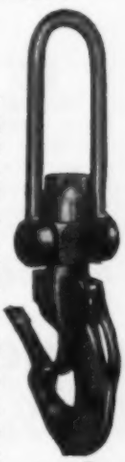
This rod hanger hangs to one side from the crown of the derrick, completely out of the way. Individual rod grips are simple and easily applied to the rods as brought up by the elevator.

When in position on the rod, the elevator is released, the rods assuming a straight position without bends or strain, in compact form, out of the way but instantly available when needed.

C. & W. Pump

### "Simplex" Polish Rod Grip

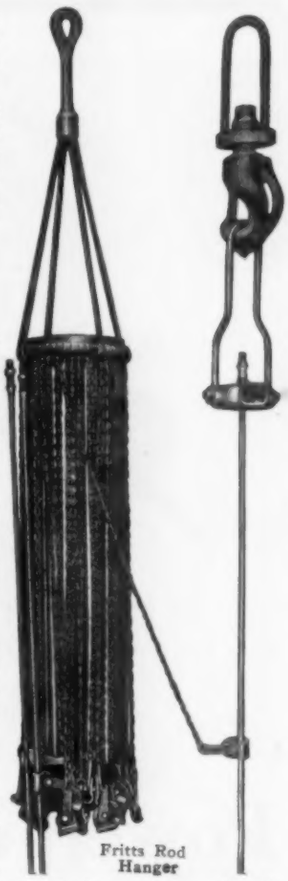
Extraordinary efficiency is said to characterize the new "Simplex" D & B polish rod grip which operates on the toggle leverage principle. When the grip is closed on the string of rods there is no possibility of its letting go, since the toggle principle is the most powerful gripping principle known. Construction of the grip is such that in spite of its strength it cannot damage the rods. The grip is very compact and is fast in operation.



D & B Safety Hook

### D & B Standard Safety Hooks

Light weight, extreme simplicity and safe and speedy operation have won favor for the D & B Standard Safety Hook. This hook is made in four sizes, two for sucker rods and two for tubing.



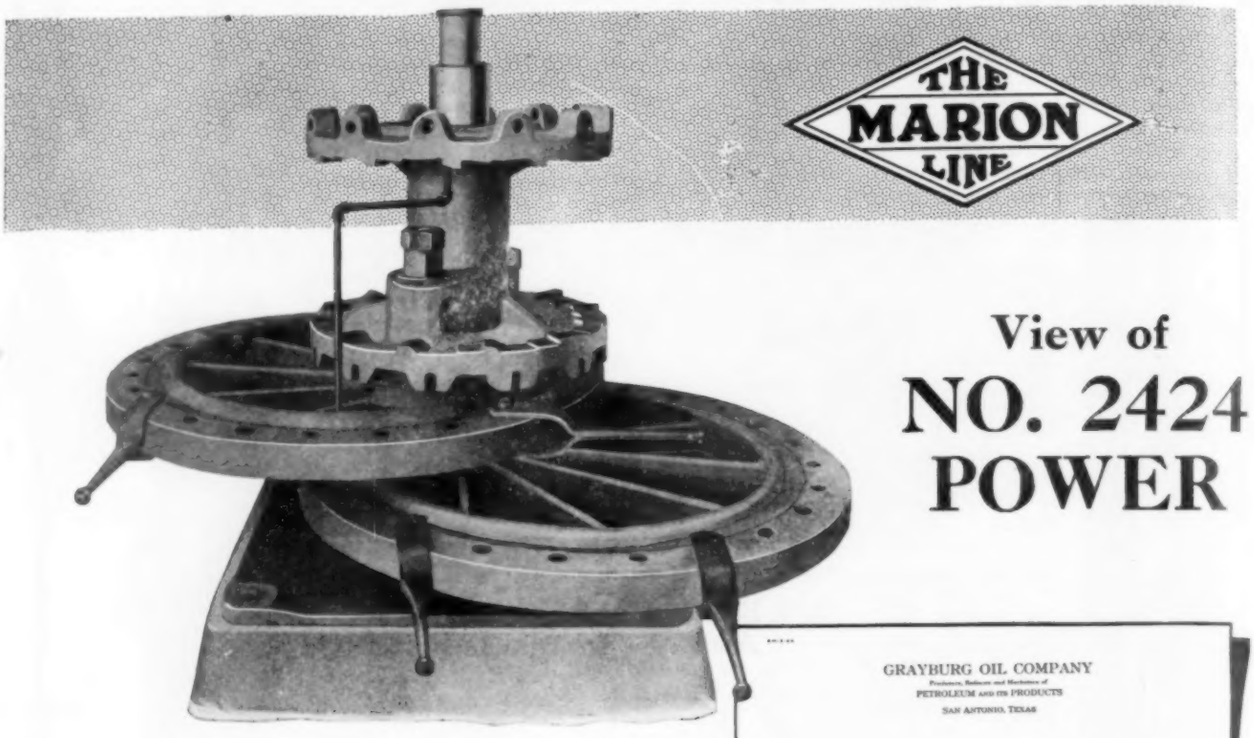
Fritts Rod Hanger

### "C. & W." Pump

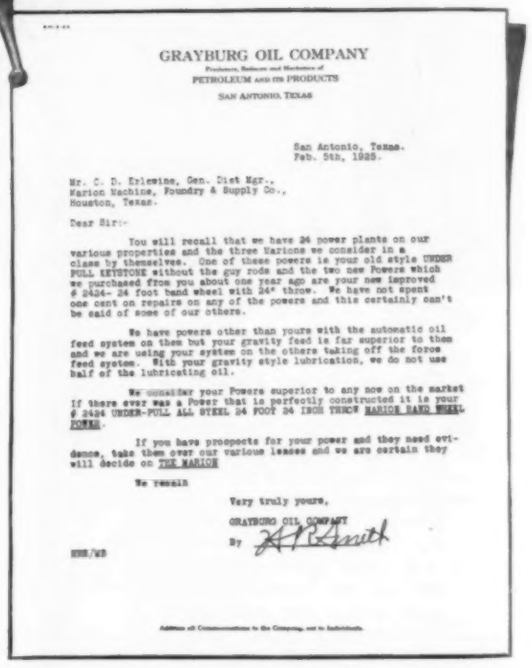
The "C. & W." pump is a combination of a regular type D & B pump, equipped with a special type of D & B gas anchor in the working barrel. It is claimed by the manufacturers that the pump handles the gas when there is gas to be handled without permitting it to remain in the barrel of the pump. Instead, the gas passes upward around the tubing and the oil goes down into the reservoir which is provided by placing two or three joints below the pump, closed at the bottom. A pipe gas anchor extends down about two-thirds of the depth of the reservoir, taking in the oil without cutting, eliminating the possibility of emulsion when there is water in connection with the gas and oil.

Additional information can be had concerning any of these articles from the company.

"Simplex Polish Rod Grip




View of
# NO. 2424 POWER



GRAYBURG OIL COMPANY
Producers, Refiners and Marketers of
PETROLEUM AND ITS PRODUCTS
SAN ANTONIO, TEXAS

San Antonio, Texas.
Feb. 5th, 1925.

Mr. C. D. Erlewine, Gen. Dist Mgr.,
Marion Machine, Foundry & Supply Co.,
Houston, Texas.

Dear Sir:-

You will recall that we have 24 power plants on our various properties and the three Marions we consider in a class by themselves. One of these powers is your old style UNDER PULL KEYSTONE without the guy rods and the two new Powers which we purchased from you about one year ago are your new improved # 2424- 24 foot band wheel with 24" throw. We have not spent one cent on repairs on any of the powers and this certainly can't be said of some of our others.

We have powers other than yours with the automatic oil feed system on them but your gravity feed is far superior to them and we are using your system on the others taking off the force feed system. With your gravity style lubrication, we do not use half of the lubricating oil.

We consider your Powers superior to any now on the market If there ever was a Power that is perfectly constructed it is your # 2424 UNDER-PULL ALL STEEL 24 FOOT 24 INCH THROW MARION BAND WHEEL POWER.

If you have prospects for your power and they need evidence, take them over our various leases and we are certain they will decide on THE MARION

We remain

Very truly yours,
GRAYBURG OIL COMPANY
By H. B. Smith

HBS:WB

Address all Communications to the Company, and to Individuals.

# Powers and Engines

**Marion Band Wheel Powers and Gas Engines are made to suit every condition in the oil fields. There is power for the small lease and power for the large.**

**All castings used in Marion Powers and Engines are made of our own Special iron mixture.**

**The tensile strength of ordinary cast iron is 16,500 lbs. per square inch.**

**The tensile strength of the iron mixture used in Marion Band Wheel Powers and Gas Engines is 25,000 to 35,000 lbs. per square inch.**

**Strength and accuracy predominate in the Marion Line of Oil Well Machinery.**

Marion Tubular Steel Derricks. Marion Steel Crown Blocks. Standard Rig Irons. Marion Steel Band Wheels. Marion Steel Pony Wheels. Marion Band Wheel Powers. Marion O. K. Jacks. Marion Peerless Reversible Clutches. Marion 10-25 and 35 H. P. Gas Engines. Marion Hi-Test Sucker Rods. Marion Sand Proof Working Barrel. Marion Gas Pumps and all surface equipment.

*Write for Complete Information*

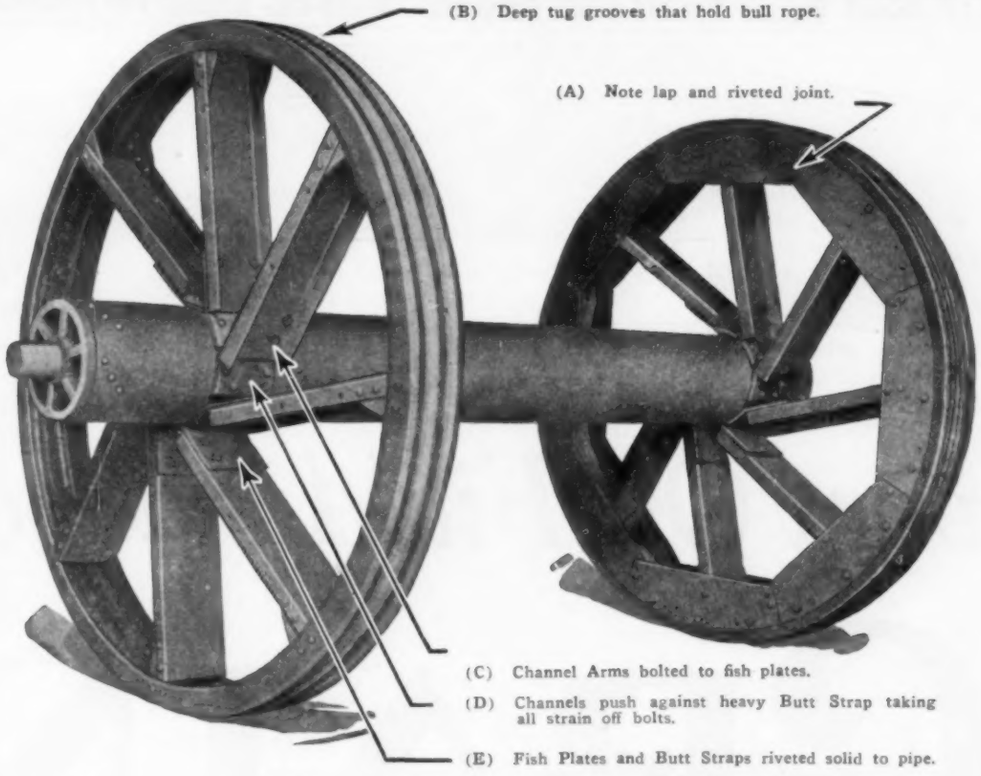
## Marion Machine, Foundry & Supply Co.
**Marion, Indiana**

*Check Below the Bulletins Wanted and Mail to Us:*

Gentlemen:

- ☐ No. 198 Marion Steel Bull Wheels, Band Wheels, Etc.
- ☐ No. 199 Marion Tubular Steel Derrick.
- ☐ No. 200 Irish Pulling Machines.
- ☐ No. 202 Marion Peerless Reversible Clutches.
- No. 203 Marion Gas Engines.
- ☐ No. 205 Marion Band Wheel Powers.
- ☐ No. 206 Marion Sand Proof Working Barrel.
- ☐ No. 214 Marion Hi-Test Sucker Rods.

Name .....
City .....
State .....


(B) Deep tug grooves that hold bull rope.
(A) Note lap and riveted joint.
(C) Channel Arms bolted to fish plates.
(D) Channels push against heavy Butt Strap taking all strain off bolts.
(E) Fish Plates and Butt Straps riveted solid to pipe.

# Marion Steel Bull Wheels

**The Marion Steel Bull Wheel is made up of the shaft, tug wheel and brake wheel.**

**The tug rim is made of one piece of steel plate rolled into the grooved rim without any joints. The grooves are smooth and polished. The shape of the groove grips the rope firmly without clinging. The rim does not injure the bull rope by bad joints or by slipping.**

**The Marion shaft is so constructed that the arms bolt on to the hub plates but the thrust is against the shoulder plates, which are firmly riveted to the shaft with no load on the bolts. For this reason the Marion Bull Wheel will stand the most severe shocks.**

**The gudgeons are made of our special MA-ya-RION mixture which has a strength double that of cast iron. They are riveted to the shafts with eighteen rivets each and cannot come loose.**

**Any pair of wheels and any shaft will go together. All wheels are shipped knocked down.**

**The Marion Steel Bull Wheel will last many years under continuous service.**

*Write for Bulletin No. 198*

**Marion Machine, Foundry & Supply Co.**
**Marion, Indiana**

Marion Machine, Foundry & Supply Co.,
Marion, Indiana.

Gentlemen:

Please mail us Bulletin No. 198 containing full information about Marion Steel Bull Wheels, Calf Wheels, Band Wheels, Etc.

Name.....

City.....

State.....

**Sectional (Portable) Houses For Industrial Purposes—Ready-Cut Houses For Permanent Homes**

Plan No. 897 Plan No. 913 Plan No. 1247

# *For Every Oil Field Purpose*

# CRAIN
## SECTIONAL BUILDINGS
(PORTABLE)

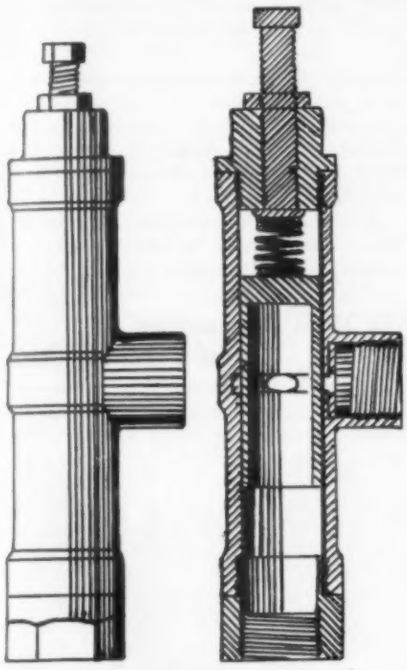
## Fulfill the Most Exacting Demands for Durable, Weatherproof Housing—at an Actual Saving in Cost

Crain Sectional Houses for every purpose are carried in stock, at all times, ready for immediate shipment. Write, wire or phone your order. It will receive immediate attention.

Write for Catalog of Plans and Prices.

# CRAIN READY-CUT HOUSE CO.

*Polk and Milby Sts.* HOUSTON, TEXAS *Tel. Preston 3448*



Fluid Control Valve

## Fluid Level Control Works Automatically

C. C. Fetty and Company, manufacturers of long stroke pumping attachments, is announcing a fluid level control valve, to be put on the market in the immediate future.

It is claimed by the manufacturer that this valve placed on a volume tank will automatically drain the water off the oil as it comes from the well. Water being heavier than oil causes the valve to open, and if there is no water in the oil, the valve will remain closed.

Further information may be had from C. C. Fetty & Company, El Dorado, Kansas, and Tulsa, Oklahoma.

## Treating Plant Can Be Easily Moved Around

The Oil Treating Plant, manufactured by the Houston Pump & Supply Company, has been improved and is now built as shown in the illustration and consists of three Tube Sections or Heating Chambers and one longer Tube Section through which the oil passes first, and which acts as a Heat Exchanger, and it will be noted that between each section there is a Mixing Chamber which thoroughly agitates the oil before passing through the succeeding Heating Unit.

The tube sections or heating chambers are of tubular construction with the tube heads forced into the ends and then welded by the Oxy-Acetylene method which insures the ultimate in rigidity and strength.

The tubes are of the finest cold drawn seamless steel bought under the most rigid inspection for this purpose, and after being annealed are forced through the reamed holes in the tube heads, expanded and beaded on the outside.

After assembling the sections are subjected to a hydrostatic test with cold water, at a pressure of 600 pounds per square inch, and while under this pressure are given a hammer test to insure tightness under all conditions.

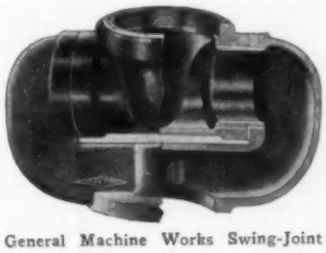
All piping subjected to expansion and contraction is protected from leakage by suitable expansion joints.

Especial attention has been given to holding the weight of the individual parts as low as possible, and owing to the unit construction throughout, the company has been successful in keeping the weight of the heaviest part under 500 pounds which eliminates some of the moving problems incident to the transportation of field equipment.

## General Machine Works Offers New Swing-Joint

In their efforts to produce specialized conservation equipment, the General Machine Works, 3608 Polk Avenue, Houston, Texas, is offering a swing-joint said to be the latest word in this type of equipment.

This swing-joint is self supporting and the load due to the weight of the swing pipe is taken off the tank connection. The swing pipe itself is centrally supported and therefore there is no tendency to tip or to turn around the tank connection. The lower end of the swing pipe is screwed into the tee which is heavily re-enforced at the rim. The reamed side openings of this tee turn freely on ground trunnions and yet make a leak-tight connection between the tee and the U-piece or yoke. The trunnions are pressed into the U-piece and form the pivots on which the swing pipe turns.



General Machine Works Swing-Joint

With this type of swing joint there are no threaded connections to wear out, corrode, unscrew or to break off. The cross-sectional area through the yoke is made twelve and one-half per cent greater than the inside area of the pipe making the friction loss through this type of swing joint negligible.

The swing-joint is made of close grain cast iron, box type construction. It is fastened to the tank nipple by means of a flanged connection. The eight-inch size will go through a standard 20-inch manhole. Weight of this size is 240 pounds.

Further information will be supplied by the company.

## Turbine Generator Now Made in Larger Size

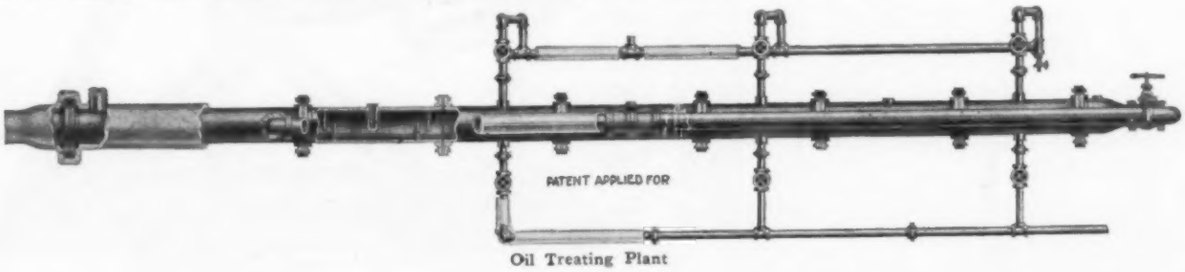
To meet the demand for a steam turbine generator of larger capacity than those ordinarily used for lighting drilling rigs, the Houston Pump & Supply Company has recently added to its well-known line of Turbolites a 3 K. W. unit designated as Model "S". This generator is offered to meet the need for the increased lighting requirements in the oil fields, and will furnish sufficient current to light two drilling rigs or one rig and additional lights around the lease.

Model "S" Turbolite embodies the same features of construction heretofore used in these generators, which the makers claim results in greater economy in both steam consumption and makeup.

The turbine shaft is made from chrome nickel steel ground to size, and is carried on three liberal-sized ball bearings which run in oil. The turbine rotor is machined all over; buckets are drawn from bronze and are designed for the utmost efficiency in steam consumption.

The unit is rugged, compact and entirely enclosed, permitting operation in all kinds of weather.

A new Turbolite booklet has just been issued which fully describes this equipment.




Oil Treating Plant

## Disc Bit Proves Effective In California Drilling

Considerable attention is being paid by operators in California and other fields, to a disc bit which the U. S. Tool Company, Long Beach, has had on the market for only a short time.

U. S. Tool Disc Bit

This bit can be used in any formation where a fish-tail will cut, and it is said to give excellent service in many places where the use of a fish-tail would be impossible.

According to its manufacturers, the bit has four and three-fourths times the cutting edge of the average fish-tail, and consequently reduces the round trips required for changing. The locking device for holding the discs to the shank is very effective.

Copies of drilling logs of wells in which this bit has been used, with other literature concerning it, will be mailed upon request to the company.

Braden Truck Winch

## New Type Winch Offered By The Braden Company

A new type of truck winch is now being manufactured by the Braden Company, Tulsa, Okla.

This winch is located on the rear wheel and is especially adaptable to oil field use. When not needed, the R-B winch, as it is called, turns with the wheel, is out of the way, and leaves the entire bed space available for load.

In action the winch drum revolves individually on the special hub, and is driven by the rear axle shaft, wheel remaining stationary. The axle shaft is engaged either with the wheel or with the winch drum through a sliding clutch which is operated by turning a nut on the outside of the drum cover.

The winch revolves independently of the wheel and there is no need of jacking up the wheel.

The Braden Company, Tulsa, will furnish other information regarding the winch, on request.

Type "C" Gauge Hatch

## Safety Gauge Hatch Made By General Machine Works

A gauge hatch designed for tanks where frequent gauging and thieving is necessary is among new conservation equipment being marketed by The General Machine Works, 3608 Polk Avenue, Houston, Texas.

The type "C" gauge hatch consists of a close grain cast iron base with a bronze cover. The cover has a machined surface and the top of the base is also machined, forming a seat for the cover and making a leak-tight joint when closed.

The cover is hinged to the base and may be opened by stepping on a foot lever. This arrangement makes it unnecessary for the gauger to lift his foot from the tank, which is a decided advantage. Safety is an important feature of this hatch, since the gauger keeps both feet on the tank roof. It is therefore improbable that he would lose his balance while gauging the tank during a wind storm.

Through a link arrangement, by moving the foot lever downward, about one and one-half inches, the gauge hatch will be thrown wide open, the cover moving away from the gauger, out of the way of his gauge line or oil thief.

A bronze to cast iron stop is provided to prevent the cover from moving over too far, and due to this arrangement, the cover will immediately drop back on its seat after the gauger's foot is withdrawn from the foot lever.

The use of bronze in the hatch eliminates the danger of fire from sparks. Weight of the eight-inch size hatch is 25 pounds.

In addition to the type "C" hatch, the company has a type "A" and "B". Type "A" is known as a plain gauge hatch with bronze top and cast iron base. This gauge is opened by turning a top quarter turn which allows it to be lifted off.

Type "B" is constructed along the same lines as type "A" but has an additional self-closing gauge opening. This provision is made for tanks that have to be gauged and sampled frequently.

Additional information on any of these hatches may be had upon application to the company.

## Oil Well Accessories' Ideal Pumping Jack

Affording a long pumping stroke and embodying the straight lift principle, the Ideal pumping jack being manufactured and sold by the Oilwell Accessories Corporation of Tulsa, and Ranger, Texas, is of all steel construction with an easy stroke adjustment. The jack is of the unit assembly with machine bearing, the bearings being easily removed. The jack comes complete with steel frame and polish rod clamp.

By a combination of simple levers the Ideal pumping jack imparts a high lever ratio and slow motion to the rods at the beginning of the up-stroke, this motion being accelerated to the top of the stroke where a quick reversal of motion is made. From this point the action is reversed to the bottom of the stroke where a slow reversal of motion occurs. This action greatly reduces shock in all working parts besides allowing ample time for the traveling valve in the barrel to pick up a full load of fuel. The straight-lift motion virtually eliminates stuffing box troubles, flat polish rods as well as cut tubing and other occurrences.

The jack is made for a stroke up to two feet for wells up to 2500 feet and below and up to three feet for any depth well. Other sizes will be announced later.

Further information may be obtained by communicating with the company direct at P. O. Box 151, Ranger, Texas, or 218 Atco Building, Tulsa.

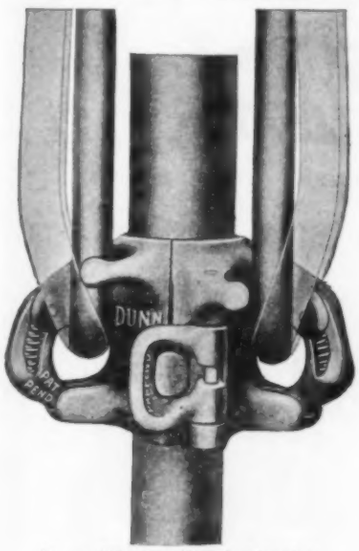
Oilwell Accessories Pumping Jack

## Dunn Manufacturing Co. Introduces New Appliances

During the past year a number of improved and new appliances have been brought out by the Dunn Manufacturing Company, Oxnard, California. These are described below:

A new addition to the complete line of elevators for oil field practice has recently been made in the "Dunn Super-Safety Elevator." It is claimed by the Dunn Company that this elevator is a radical departure from ordinary elevator design and construction and embodies many improvements essential to positive operation and safety.

The illustration shows this elevator

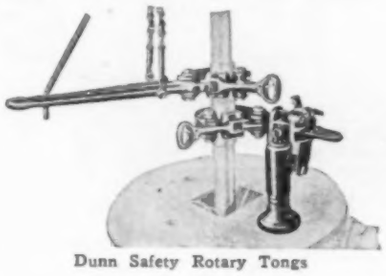



Dunn "Rotary Flyer" Elevator

in partly open position, with the door at its highest point. When open just a trifle more, the door, working on a cam, drops into the lower position on the outside swing of the cam, and is in a semi-locked position. From this it will readily be seen that the door cannot be opened while the elevator is carrying the load.

In this figure also, the perfect interlocking features of the door, body and latch are readily apparent. The manufacturers claim that it has seven interlocking points, either one of which is sufficient to prevent the door from being opened through accident.

The link retaining members are made to hold the links, but are so designed that they can be released and taken out by the operator when desired with very little effort, and very quickly. The roller hinge of the door works on a cam, also preventing the door from being opened until relieved of the load.



Dunn Safety Rotary Tongs

### "The Rotary Flyer" Elevator

"The Rotary Flyer" is the name of an elevator of original design.

The Rotary Flyer is a double door elevator, and "is a scientific development" according to the manufacturers. Outstanding features of this elevator as enumerated by the manufacturers, are as follows:

1. Cannot open while under load, yet there is no strain on the latch.

2. Hinge pins in direct parallel with the links and the load, eliminating spreading strain.

3. Latch of entirely new design, the function of which represents a complete departure from that of the ordinary elevator latch.

4. The lack of an internal rib at the bottom of the inside of the elevator permits free drainage of mud and slush.

5. The link retaining means are unique and a radical improvement over the method commonly adopted.

6. Designed to take either straight-end or curved-end links.

Dunn Safety Automatic Spring Hook

### Safety Rotary Tongs

The Dunn Safety Rotary Tongs which were placed on the market approximately a year ago, are reported to be very popular due to highly successful results obtained in service.

This tong, known as the "SmithTONG" Type, is built in two styles; the suspension tong or long handled type; and the table tong, or short handled type. The illustrations herewith give a very good idea of the design, construction and operation of these tongs, which are of the two-jaw construction. The two-jaw members, yoke and locking arm, interlock when placed on the pipe and co-act with the movement of the handle to a gripping position automatically adjusting themselves to all diameters from pipe size to the smallest and largest size collars and tool joints without the use of bushings. They automatically lock in both open and closed positions and when placed on the pipe, positively cannot be released except by the operator

Dunn Safety Automatic Tubing Catcher

### Safety Automatic Spring Hook

Outstanding features of the Dunn Automatic Spring Hook are the relief spring which surrounds the shank and seats in the bail, and the fact that it locks automatically when in working position carrying a load. The spring in the shank is of sufficient strength to lift the section of tubing being unscrewed, and thereby eliminates burring of the threads as well as simplifying the operation of unscrewing the section.

Dunn Light Balanced Tubing Tong

The Dunn Safety Hook is made in four sizes, with carrying capacities ranging from a string of sucker rods up to more than 125 tons.

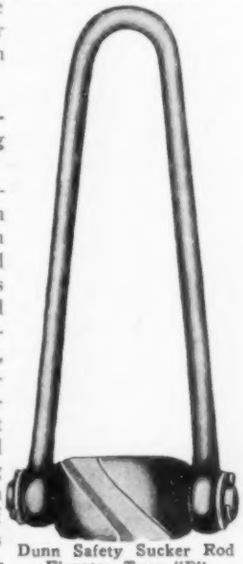
### Automatic Tubing Catcher

Through eliminating many serious accidents resulting from dropped strings of tubing, the Dunn Safety Automatic Tubing Catcher has proved one of the most needed safety devices in oil field practice, and for this reason has been accorded a ready acceptance by operators in every field.

This tool is light in weight and can be installed at any point in the string. It also can be furnished with or without the anchor, or sleeve, as desired by the operator. The catcher has ample passage for the fluid, permitting the tubing to be raised or lowered rapidly, and is designed to catch the string should the tubing part or unscrew from any cause.

### Light Balanced Tubing Tong

The gripping strength of the Dunn Light Balanced Tubing Tong is well illustrated in the reproduction above, showing a 1¼-inch tong carrying the weight of a 200-pound man while tong is in position on a string of tubing. Yet this tong is ex-



Dunn Safety Sucker Rod Elevator Type "R"

FOR CLASSY SERVICE
TONGS
TUBING CATCHERS
ELEVATORS
HOOKS
It must be DUNN

# DUNN TOOLAGRAM

ORIGINAL
PRACTICAL
ECONOMICAL

## The ROTARY FLYER!

## DUNN SUPER-SAFETY ELEVATOR

(DOUBLE DOOR TYPE)
PATENTS PENDING

*It hadta' be DUNN*

*It hadta' be DUNN*

Something new under the sun and of course it's Dunn. A rotary elevator that stands so far out in front that it sells itself. Built along strictly scientific lines and embracing, in combination, super safety and super speed.

### *Note These Exclusive Features*

1. A scientific development of many needed improvements in heretofore accepted elevator design, especially adapted to the safe and fast handling of rotary drill pipe.
2. ***Cannot open while under load and yet there is no strain on the latch.***
3. Hinge pins in direct parallel with the links and the load, eliminating all spreading strains.
4. Latch of entirely new design, the function of which represents a complete departure from that of the ordinary elevator latch.
5. The absence of an internal rib at the bottom of the inside of the elevator permits free drainage of mud and slush.
6. The link retainers are unique and a radical improvement over the method commonly adopted.
7. Designed to take either straight or curved links.

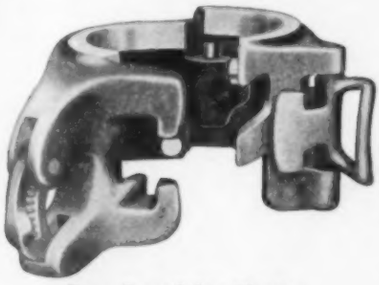
### Judge For Yourself

***To properly demonstrate the great merit of this elevator we will supply any reputable user with one or more on approval, freight at our expense, without obligation of any kind.***

At the present time offered only in rotary drill pipe sizes.

OIL WELL PATENTED DUNN TOOLS
TRADE MARK REG.

**DUNN MFG. CO.**
**Oxnard, California**



Dunn Super-Safety Elevator

tremely light in weight, so light that any ordinary worker can handle it easily with one hand. It embraces the same gripping features of all other Dunn Tongs, the interlocking jaws which coact with the movement of the handle. The handle is free to move in either direction and a hammer like blow can be made for setting up or breaking a hard connection without affecting the grip of the tong on the tubing.

### Safety Rod Elevator

"Simplicity itself" is the way the manufacturers describe the new Dunn Type "R" Safety Sucker Rod Elevator. This elevator consists of but two main parts, the body and the single link. The body, a heavy casting, is a solid piece, having a groove at such an angle that the elevator has to be tipped to insert the rod. The light weight lends itself to this operation very readily. When once in operation, there is no chance whatever for the rod to be released except by the operator.

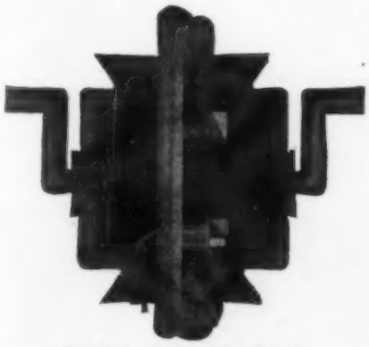
Further information on any of these articles can be secured from The Dunn Manufacturing Company, Oxnard, California.

## New Tubing Oil Saver Made By Cunningham Co.

A new Tubing Oil Saver—the Standlee, manufactured by Cunningham Company, Tulsa, Oklahoma, is one of the new devices recently introduced to the trade by this company.

It was designed to be attached to the casing head to prevent the loss of oil when running or pulling out.

The casting is strongly built, in two parts bolted together, on the inside of which is held the rubber packing which encircles the tubing. Directly behind this packing is a heavy steel plate to which is attached two speed screws. By means of these screws any degree of compression is quickly obtained on the rubbers giving an effective and efficient method of packing off.



Standlee Tubing Oil Saver

The tubing is securely held in the oil saver by heavy steel slips, giving the greatest possible factor or safety against the slipping or dropping of the tubing.

The base is reversible giving two different sizes of base plate to fit different tubing sizes.

Communicate with the company for further information.

## Hinderliter Eccentric Grab New Idea In Fishing Tools

An entirely new principle in fishing tools has been perfected by Frank J. Hinderliter and is being manufactured and sold by the Hinderliter Tool Company of Tulsa, under the trade name of the Hinderliter eccentric grab. The tool was specially designed for fishing out any small object lost in the hole.

Hinderliter Eccentric Grab

The Hinderliter eccentric grab is a forging finished in a half-circle and slotted to permit the operation of an adjustable arm. The arm is held by a hinge pin set about midway of the forging permitting arm to open and close. The operation of the arm is controlled by coil springs and cast-iron pin that is inserted between the arm and body of the grab, which position compresses the coil springs when the grab is lowered in the hole. The half-circle body extends a sufficient distance below the arm to straighten up a tool lost in the hole to a position that will guide the lost object into the body of the grab. This displaces the pin causing the arm to engage over the lost tool.

The Hinderliter eccentric grab embodies the working principles that enable the human hand to pick up an object, the body of the grab corresponding to the four fingers and the arm of the tool corresponding to the human thumb. It is being manufactured in all sizes.

Further information may be obtained by communicating with the Hinderliter Tool Company direct.

## Ward Chemical Company Improves Scale Remover

Several improvements in the chemical analysis of the Ward Process of scale removal, have been made recently by the Ward Chemical Company, Tulsa, Oklahoma. These improvements are said to make the chemical more effective in giving immediate results.

The Ward Process is easy to install. It requires only a few pipe connections consisting of swedge nipple, two gate valves, one Tee plug and one foot of pipe, one or two inches in diameter. This connection is made on the discharge side of the pump for the purpose of pouring the fluid into the water feed, the proportion being determined by the size of the boiler.

The process is giving satisfaction in many fields.

Further information will be supplied by the company.

## Bear Cat Hoist Company Makes Fordson Attachment

A hoist highly recommended for use in oil fields is being marketed by the Bear Cat Hoist Company, 202 Roberts Building, Tulsa, Oklahoma, through authorized Ford and Fordson dealers.

This hoist is built for use with the Fordson tractor and when installed becomes a part of the tractor. Working parts of the winch are housed in with special steel housings and become a part of the tractor differential and are oiled with the same oil bath that oils the Fordson transmission and differential.

To the worm gear of the Fordson is bolted a steel hub with the large gear on the outer end. On the drum shaft is a sliding gear that meshes with the large driven gear. This insures three forward speeds, one reverse speed, and a free drum, a combination which means maximum efficiency from the outfit.

Having arrived on the job, the tractor is anchored, the line is fastened to the drum, and the operator shift a small lever which disengages the tractor axles. Then the outfit is put into whatever gear is desired and starts pulling. The operator remains seated on the tractor seat with his work directly in front of him. With his left hand he operates the Fordson gear shift lever, also the sliding gear control lever. Comfortably in reach of his right hand is the lever which controls the large brake.

Complete information can be had by communicating with the company.

Patented

# INSTANTLY REVERSIBLE
# CLOSES AUTOMATICALLY
# NON-SLIP BULLDOG GRIP
# THE STRONGEST TONG MADE

*"Better Be Safe Than Sorry"*

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THAT MERITS
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# CONSERVO BURNERS

*"25% More Heat — 20% Less Gas"*

**The above figures were an actual report from a drilling contractor, on the economy of Conservo Burners, and they are typical of reports from users.**

**The remarkable efficiency of the CONSERVO is the result of its scientific design, which insures an even distribution of the heat, proper mixing of gas and air, and complete combustion. Simply constructed, easily installed.**

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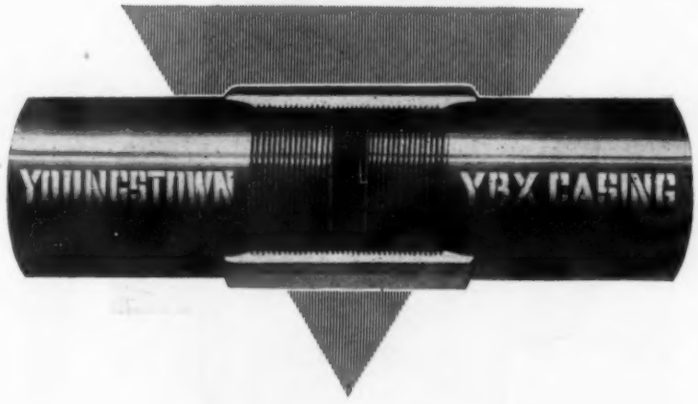
**OKMULGEE, OKLA.**

CONTIN




# YOUNGSTOWN PIPE

## *Casing, Tubing, Drill Pipe, Line Pipe*

**The high reputation enjoyed by "Youngstown" Pipe, Tubing and Casing in all the great Oil Fields of the world has been won by long years of satisfactory performance. It is thoroughly good pipe, backed by thoroughly good service.**

**"Youngstown" Pipe is carried in stock at all of its many stores by the Continental Supply Company, which has for its chief aim the convenience and satisfaction of users of Oil Country materials.**

***"If CONTINENTAL Sells It There Is No Better"***

**Manufactured by**

**The Youngstown Sheet & Tube Co.**

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# Jefferson Unions and Flanges

## *Patented Seat-Ring Construction*

There is one best way to do anything. JEFFERSON discovered the best way to insert a brass seat ring in a Union or Flange, and PATENTED the method.

This exclusive advantage, aided by careful development of materials, general design, and workmanship, undoubtedly explain The Jefferson Union Company's rapid growth and present leadership in its field. A full line of 2-part and 3-part flanges and unions is offered.

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## Jefferson Union Company

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# Tivan Alloy Fish Tail Bits

## *User Says "More Hole Per Dressing"*

One contractor writes: "We make about 30% more hole with your bits * * * though we have been using high grade steel bits from other manufacturers." Another writes: "We get more hole from one dressing than with any other make."

TIVAN Fish Tail Bits are guaranteed to have a wider dressing and hardening range than any other bits. Ask for descriptive folder.

*"If CONTINENTAL Sells It There Is No Better"*

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**TITUSVILLE FORGE COMPANY**
**Titusville, Penna.**

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# HEWITT TIRES

HEWITT TIRES, now handled by the Continental Supply Company for nearly two years, have established a reputation throughout the oil fields for REAL SERVICE. We are continually receiving reports from users who are amazed at their durability when subjected, day after day, to running over rocks, ruts, mud, pipe and rod lines.

Give HEWITTS one trial and you will adopt them permanently.

*"If CONTINENTAL Sells It There Is No Better"*

**Manufactured by**

## Hewitt Rubber Company

**Buffalo, N .Y.**

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WATER PROOF
ACID PROOF
ALKALI PROOF

WILL NOT CRACK, RUB, PEEL OR SCALE OFF

# TNEMECOL PAINT

## *Gives Permanent Protection to Underground Pipe Lines*

TNEMECOL PAINT gives real and permanent protection to underground pipe lines.

Water proof, acid proof, and alkali proof, TNEMECOL dries with a glossy finish that is very elastic, will not crack, rub, peel or scale off. Easily and quickly applied, it spreads over 300 to 400 square feet per gallon.

Sold by all CONTINENTAL Stores. In any quanity from one barrel to a carload. Give your pipe lines adequate, permanent protection by using TNEMECOL Paint. TRY IT!

*"If CONTINENTAL Sells It There Is No Better"*

**Manufactured by the**

## Tnemec Paint and Oil Company

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Rough Rider Belting
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**MORE THAN 70 STORES IN THE OIL COUNTRY**

# Reaming and Blowing Combined in Cleaning "Shot" Hole

## Removal of corrosion and paraffine from cavity increases well production

*By Roye Munsell*
*Staff Representative*

THERE was a time when an increase of production from an oil field invariably meant the completion of new wells, but with the increased understanding of the real nature of oil production, it may also mean, in part at least, the use of more efficient methods of handling old wells.

There is, in all probabilities, a tremendous amount of oil available to not only old, and even abandoned wells, but new ones also, which cannot be secured by the ordinary methods.

One of the most obvious ways of bringing the most of this oil to the surface by raising the production of individual wells and extending their lives. Probably the most effective single means of reaching these objectives is by the cleaning-out process.

Sand cavings and debrious materials collect at the bottom of the shot hole to reduce the size of the necessary oil reservoir and "choke" the hole by becoming hard packed. It is manifest, therefore, that at more or less frequent intervals these substances must be cleaned out of the well if the seepage area is to be kept adequate and the well is to at least maintain the production of which it is capable.

### Freshen Cavity

Not only must the well be thoroughly cleaned out as it is required, but the cavity at the bottom of the hole ought to be freshened from time to time. It is well known that over a period of time the sides of the cavity become encrusted with corrosions and deposited paraffin. Production suffers materially under this condition because the surfaces through which the oil must flow before the pump can pick it up have lost the necessary porosity.

The use of compressed air to "stir up" the well, to correct the faulty condition of the walls of the hole, and to clean it by lifting and blowing out the accumulations has many interesting considerations, and it might be said, is being rather widely used in varying forms.

A campaign of using air to clean out and recondition wells is in progress throughout the older pools of Oklahoma, and particularly in the northern area. Some interesting results are being reported from reliable sources.

Eight wells in the Dewey district which averaged, over a long period, a total production of 16 barrels per day, were increased to 32 barrels, or 100 per cent, by air cleaning and are holding to that mark. Three other wells near Dewey which gauged the total of nine barrels per day were raised by this process to 26 barrels.

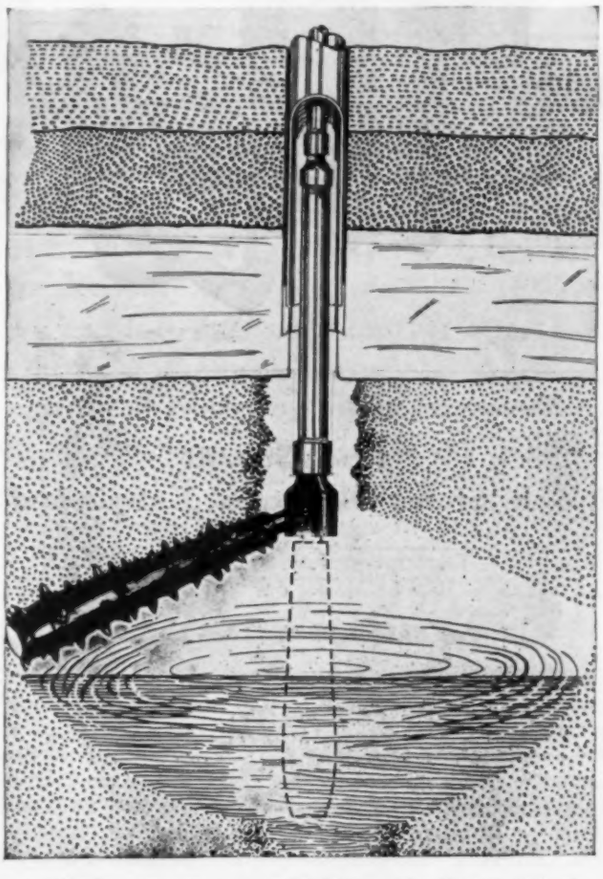
One may well conclude that the action of air under pressure to effectively clean out wells and thereby increase their production has passed the experimental stage.

### Compressed Air

The action of compressed air on the crust which is formed at the bottom of the wel is obvious and needs no explanation. The effect of it is not different from that obtained by a man using a hose on his garden when the earth has become excedingly hard and "crusty." After once penetrating the surface, which requires but a few seconds, the force of the water quickly digs its way under the surrounding crust, tearing it loose and throwing it severely aside; all the while exposing more of the fresh earth.

This homely but familiar illustration serves well to explain the action of air under pressure on the surface of a shot hole. Since the pressure in this case has a restricted point of escape (the well itself), it at the same time further expends itself by raising to the top the debris which is being created during the operation.

It is well known that some holes may be so badly paraffined and corroded, and the sand cavings and debris so tightly packed that an air pressure practical to obtain is without much effect on them. To meet this condition the oil well reamer is used in conjunction with the air cleaning process to increase its action.



Combination oil well reamer and blower. Dotted lines indicate blowing position.

### Reamer

The type of reamer employed has a steel arm provided with a number of case-hardened points which swings around in the hole at the end of a shaft projected into the well.

The points are spaced on the arm in a spiral pattern and as the arm is fixed to rotate as it swings, the contact of the points on the wall tends to cut loose all burnt sand, corrosions and paraffin.

A well is alternately reamed and blown, the blows carrying the products of the reaming to the surface as well as exercising their own peculiar action.

The reaming process it will be recognized has advantages of its own and may be effectively employed to freshen up the shot hole, thereby allowing a freer flow of oil in the seepage area.

It will be further recognized that when the two processes are used on the same well, the air cleaning is greatly facilitated in its work.

When these two processes are combined for use on the same well, the machine for attempt-

# Why Not Use the Best?

## "CROTTO" THREE JAW WIRE LINE DRILLING CLAMP

"SAVES TIME AND WIRE LINE"

BALL BEARING

**Price $95.00**
**f. o. b. Stores Oklahoma, Kansas and Texas**

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# Exclusive Features of the "Crotto" Wire Line Clamp

THREE JAWS AND BALL BEARING—Permits uniform closing compression and easy, positive grip.

LINERS WITH PROJECTED WORKING FACES—Funnel-Shaped at top permitting easy entrance of cable through slips without danger of pushing high strand up the line. Made of that SPECIAL HEAT-TREATED STEEL found most suitable for the purpose. Liners practically encircle cable.

A Prominent Contractor Reports Seven Months Practically Continuous Service from One Set.

**Section of Driving Mechanism**

The internally threaded Gear, driven by Pinion integral with Handle Bar Shaft, actuates T Head Bolt to close or open the Gate. Note the ball bearing thrust.

**Links**

are drop forged, weldless, and positively will not foul.

CLAMP IS PERFECTLY BALANCED—Is easily hitched and unhitched.

Handle on gate and left half permits this operation conveniently and without danger of injury to hands of operator. Links can be changed by simply removing cotter pin and taking out hinge. Entire Clamp easily and quickly assembled.

Sole Manufacturer

## WESTERN SUPPLY COMPANY

TULSA, OKLAHOMA

Compressor and pressure tank for cleaning out with air.

ing them has been rather aptly called the air-reamer and is manufactured by the Jones Oil Well Reamer Company. Its adaptation to oil well conditions is sometimes ingenious and has many points of interest.

The blowing is done without removing the reamer from the hole, both reaming and blowing being done by the same instrument.

The arm for reaming hangs in a slotted head which may be screwed directly onto the 3-inch tubing taken from the well to be reamed and cleaned. This tubing, it will be seen, is used as a sort of shaft, but to give added strength to it and increase its length three or four joints of 3-inch line pipe are generally used between the head of the arm and the tubing.

To the end of the tubing which normally projects over the surface, a ball bearing swivel is attached directly by the means of the tube's threads.

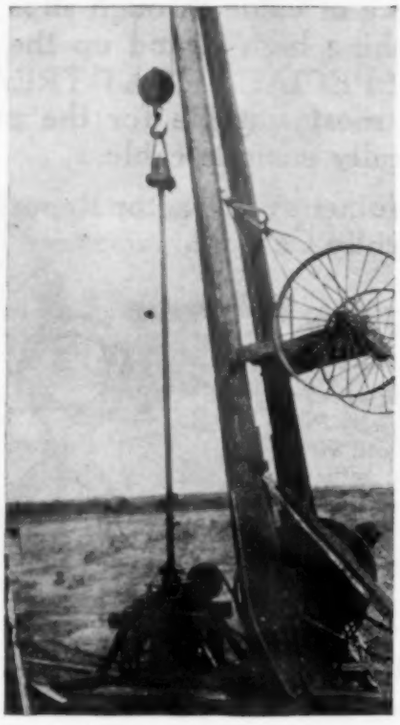
This swivel carries the entire weight of the tubing and is hung from the pulling machine or derrick, and therefore permits the tubing which has now really become a shaft to be freely revolved by a rotating table set over the well.

### Centrifugal Force

When the number of revolutions become as high as approximately 100 per minute, it is evident that the reaming arm at the bottom of the well is swung up, the slotted head permitting, to a right angle by the centrifugal force and thus comes into contact with the sides of the shot hole. The effect already described resulting.

The air blowing which follows is accomplished without any mechanical changes in the machine. Both the swivel and the head of the reamer arm have air passage ways to permit the free flow of the air through them. There is a flexible hose connection between the air line and the swivel and the reamer arm is hollow to serve in this connection as a sort of nozzle.

Since the "shaft" is nothing more than 3-inch tubing and three or four joints of line pipe, a passage way for air is completed between the air line and the reamer arm.



Rotary table for sand reaming in place over casinghead.

When the well is to be blown the rotating table is stopped and the valve in the air line merely opened. The air then passes unrestricted through the flexible hose into the tubing by means of the specially constructed air swivel and thence out the hollow reamer arm into the bottom of the hole where it does its work. The reamer arm, it ought to be noted, is held stationary during the blowing process.

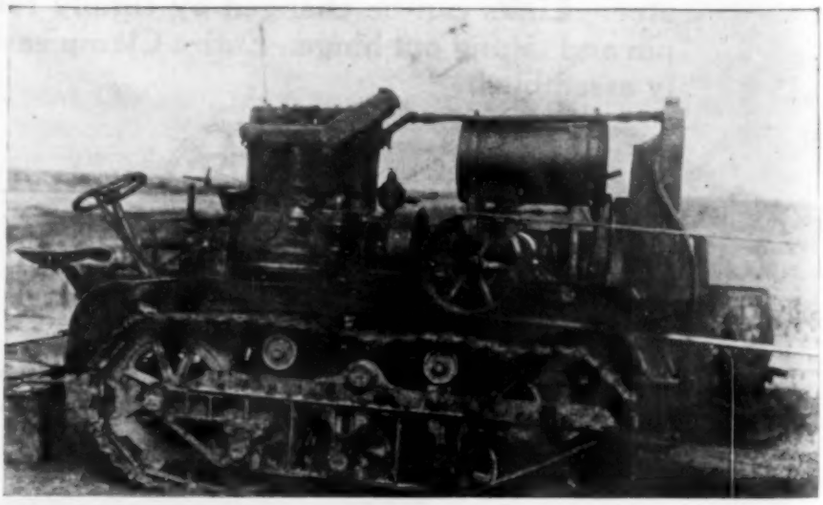
The range of pressure for blowing is between 150 and 200 pounds. Each "shot" of the air lasts from two to five minutes, depending on the capacity of the air storage tank. The tank is generally about 3 feet by 28 feet and is filled by a two stage, high pressure compressor, with a capacity of 115-120 cubic feet of air per minute.

It is evident that with a tank of this size about 45 minutes is necessary to fill it between "blows." But if the well is being reamed as well as blown, this time is used for the reaming operation—the result being a process which has the further virtue of practically continuous operation.

## Link-Belt Chains Built To Stand Strenuous Service

Owing to the strenuous demands of super speeds and super strains in drilling, Link-Belt Company of Chicago, Indianapolis and Philadelphia, developed the SS-40+ and SS-124+ chains. These chains are no heavier than the SS-40 and SS-124 but are superior in strength and ruggedness, due to the specially selected materials from which they are made and the unusual heat-treating which they are given. The "curled roller" is used on these chains the same as the SS-40 and SS-124. The ultimate strength of SS-40+ is 40,000 pounds, and that of the SS-124+, 90,000 pounds.

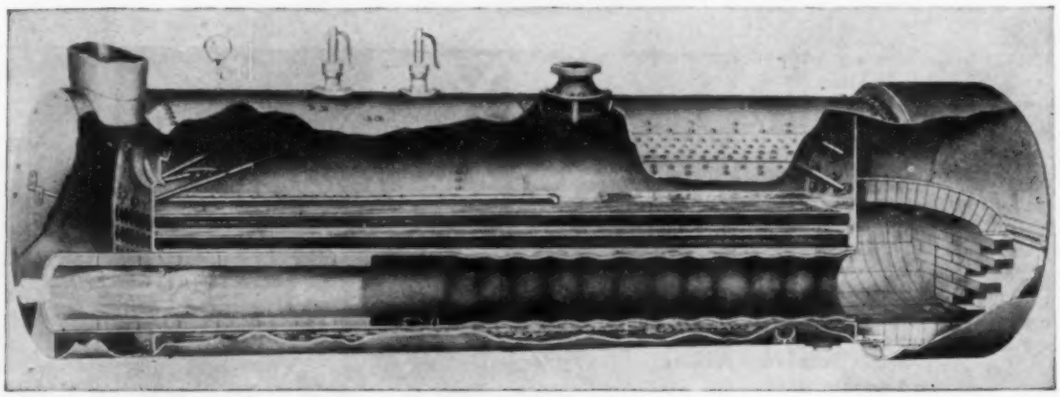
Further information may be had from the company.



Compressor power comes from a tractor which also serves for transporting the equipment.

# TAYLOR BOILERS

## AN ADVANCED ENGINEERING ACHIEVEMENT



The correct design for Economy, Safety and Efficiency

## *Exclusive Features:*

—twenty-eight feet of flame travel inside of the water
—economical, correct furnace design and long gas travel
—greater thermal efficiency
—fuel saving of 8 to 20 per cent reported by engineers
—easily fired and very quickly steamed
– no crown sheet to collapse
—no staybolts to leak
—no headon combustion against ends of tubes to cause leaks and burning out
—unusually large water space, assures steady steam pressure for the hard pull
—unusually large disengaging surfaces
—plenty dry steam without pulling over even with three gauges of water reported by firemen
—easily cleaned; you can actually get inside to do the job right.
—low cost of upkeep and repairs; no staybolts to replace
—easily moved; it is round; you can roll it
—ideal as an oil heater for refineries
—a CODE boiler; strictly A. S. M. E. code construction

*"You will find a Taylor Boiler at the Petroleum Exposition on the lot with the facsimile of the Drake Discovery Well and right beside the boiler of 1859, used in drilling the Drake Well."*

*A Product of the*

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*Say you saw it in The OIL WEEKLY*

# Use of Steel Ditches Cuts Pumping Repairs in Half

## Portability of flumes introduced in California makes cost cheaper than old days

A STRANGER upon viewing a mechanical improvement often exclaims, "Why was not this done always in this way?" The answer is that no one ever thought of it before. Custom is a hard thing to break even in a kaleidoscopic industry like the oil business. It took two years to convince rotary drillers that a core-barrel was useful. When a steel circulating-mud ditch (flume), costing $500 can be used for ten wells and still be almost as good as new, why use a $200 wooden ditch for each well? Because for over thirty years mud ditches have been wood. Steel tanks have replaced wooden tanks; steel derricks are becoming common. Modern methods for deep and fast drilling demand steel construction throughout. The steel circulating ditch is one of the final steps in the trend toward steel construction although it should have been the first. Considering the advantages listed below, even if everything else around the derrick is wood, the ditch should be steel.

### Practice

In the Midway field in California one large company has used steel mud ditches (flumes) exclusively for over a year. Lately another and larger company has adopted them. As in many innovations, it has been discovered that unexpected savings are made. For instance, the use of steel ditches has cut pump repairs more than half. A pump liner will last 10,000 feet of hole with a steel ditch as compared to 3,500 feet of hole in the same locality with a wooden ditch. Furthermore, valve repairs are greatly reduced.

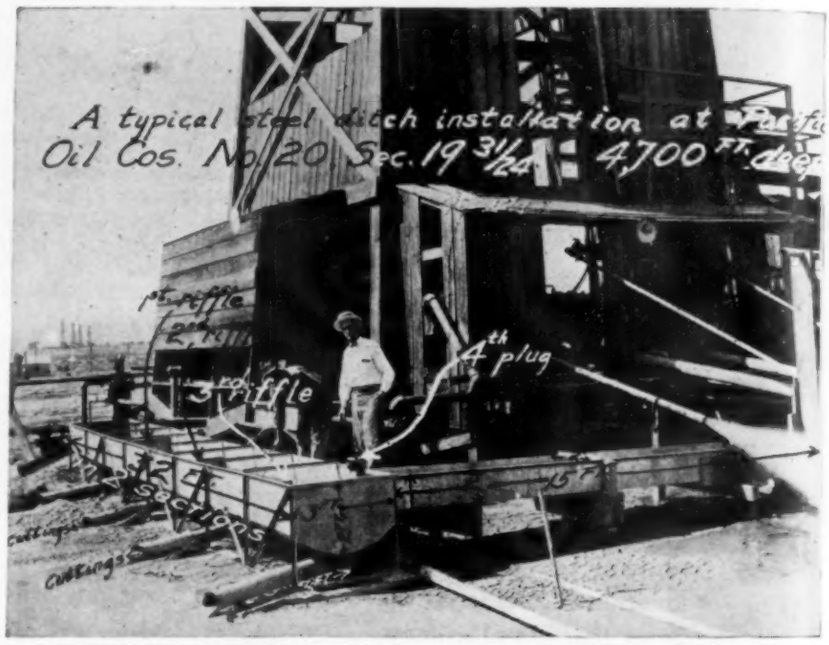


Fig. No. 1.—Gill Portable Flume, Harry M. Gill, Box XX, Taft, Calif. (This photograph was taken with the ditch empty while the crew was pulling the drill pipe out of the hole.) The 3 riffle plates, which is one of the effective features of Mr. Gill's design, are indicated on the print by arrows. When this well was started, the sump shown in the lower corner was about 2 ft. lower. During drilling to 4 700 ft., the drill cuttings filled up the sump as shown in the picture. The upper flume, 2 ft. wide by 20 ft. long, leading under the derrick floor has been replaced by a pipe as the well is nearing completion and soon will be brought in. The main flume is made in two sections bolted together with a total length of 32 ft. as marked on the photograph—dip 12-inch, 32 ft. For transportation, the ditch is taken down in sections and thrown on top of a truck load of drill pipe. The cuttings are discharged thru pipes by means of plugs in the bottom. Mr. Harry G. Gill, patentee, is shown in the center holding one of the plugs.

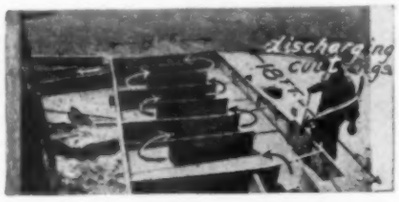


Fig. No. 3.—The Pacific Mud Flume, by B. G. Gill, Taft, Calif., consists of a steel box with a slanting bottom. The drill cuttings gravitate to the lowest side of the box. The man shown in the photograph is lifting the sliding door that discharges the cuttings. Another similar door operates further down on the same side. The mud flows around the baffle plates in the direction shown by the arrows. This picture was taken at the sixteenth well at which this flume has been used. Honolulu Consolidated Oil Co's No. 63, in Sec. 4, T 32 S, R24 E, M. D. B. and M., Taft, California.

### Steel vs. Wood Ditch

A tabular comparison of material and labor for steel and wood ditches is presented below, using the figures of an ordinary wooden ditch against the most advanced type of steel ditch as shown in Figure 1:

A steel ditch is an improvement that gratifies both owner and workmen, because pump repairs are lessened and there is no shoveling of drill cuttings. At the end of drilling there is no dirty job of tearing down a wooden ditch half buried in cuttings.

### Uniformity of Mud Fluid

In an old style wooden ditch the stream of mud can be seen to channel. The mud on the sides is sluggish and the main current adopts a winding course in the center. This channeling of the mud stream is eliminated by three riffle plates in one of the latest types of steel ditches shown in Fig. 1. The second riffle is three inches lower than the first. The third riffle is three inches lower than the second. The ditch is made three feet wide with eight feet between riffles. The cuttings have

| | STEEL | WOOD |
|---|---|---|
| Time to Set up | Two hours | Eight hours |
| Number of men needed | Four at $5 per day | Two rig builders at $15 per day |
| Time to tear down | 30 minutes | Two hours |
| Weight | 1,950 pounds | 9,000 pounds |
| Number of holes good for | 20 + | One (scrap used for doubling floors) |
| Cost | $500 | $200 |
| Cost of material per well | $25 or less | $150 |

Fig. No. 2.—Paul Bedeman Flume, Advance Engineering Co., Los Angeles, Calif. The drill cuttings in this type of steel ditch which are caught in a steel pit, are discharged by means of a sliding door indicated by an arrow in the lower right hand of the photograph. Standards made of 1¼-inch pipe support the flume. For transportation the ditch is divided into 7 sections about 10 ft. long each. These sections can be quickly bolted together by ½-inch bolts and fitted to the standards by means of sliding clamps with set screws.

# *During the Exposition*

We would welcome the opportunity to explain to you the Tret-O-Lite method for treating petroleum emulsions and the different types of installation to meet difficult conditions.

The Tret-O-Lite process is the most simple, thorough and economical known. In many districts it is the ONLY method in use.

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**St. Louis, Mo.**

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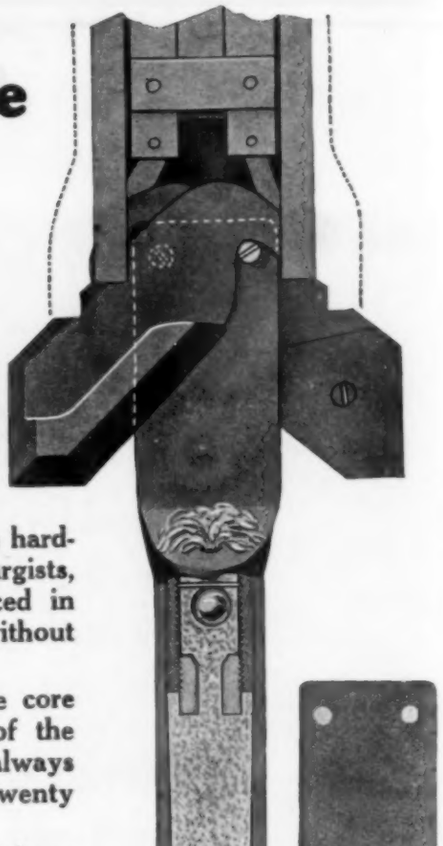
*Say you saw it in The OIL WEEKLY*

# The Standard Collapsible Rotary Drill and Core Barrel



**is rapidly becoming recognized by oil producers as the most efficient, reliable and economical drilling tool on the market.**

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# Texas Conservation Rules May Be Re-written

## New regulations will be published and another hearing held before adoption

*By A. R. McTee*
*Staff Representative*

Austin, Texas.—Definite steps toward a rewriting of the conservation rules of the Oil and Gas Division of the Railroad Commission of Texas were taken here Monday, at a meeting called by the chief supervisor. This meeting was attended by operators from all districts where oil is produced in the state, including the heads of the biggest companies in Texas. Discussion centered around four main points: the swabbing of wells for production, the use of vacuum in connection with casinghead gasoline plants, storing low gravity oil in open earthen tanks, and the percentage of gas to be taken from gas wells. A few minor points were taken up comprising the advisability of rules compelling all inner strings of casing used in gas wells to be tested, advisability of changing the rule pertaining to the spacing of gas wells, the practice of skimming, the use of compressed air, the 50-foot rule, the open-flow test of gas wells, and one or two matters pertaining to the administration of the division.

The question of swabbing for production invoked the most discussion and resulted in a number of conflicting opinions. In all cases where this matter has come up heretofore, the Oil and Gas Division has held that swabbing, except for cleaning out and testing purposes, is contrary to the conservation policies of the Railroad Commission, and on this basis has vigorously attacked the practice of operators who swabbed for production, even bringing suit in one instance. The Division has contended that swabbing creates a vacuum on the oil sand and for that reason often results in damage to the well being swabbed as well as to nearby properties. Instances are on record with the chief supervisor where apparently this practice has resulted in unseated casings, very detrimental water encroachment, and other bad features.

### Restrict Swabbing

Various operators expressed opinions on swabbing and its results, several stating that swabbing does not create a vacuum of any consequence. The practice was classified as nothing more than a method of quick production. It was brought out that swabbing is an expensive method and it was emphasized that few companies continue to swab wells unless it pays them to do so. Several operators stated that they had never known of an instance where swabbing had damaged a well, but could recall cases where the practice had been the means of holding up or restoring production. Swabbing to clean a sand of wax accumulation was mentioned in this connection, and it was also shown that by using the swab it is often possible to loosen up the sand at the bottom of the hole, thereby permitting a greater inflow of oil.

Against these statements other operators argued that swabbing is a distinct disadvantage in many fields and does irreparable damage if persisted in for any length of time. Incidents were related where wells had been totally ruined from swabbing.

After the matter had been discussed pro and con, suggestions were made that the Oil and Gas Division restrict swabbing for production, allowing it only by special permit, after a hearing before the Railroad Commission, and that the rule be stated in language which cannot be misconstrued. This solution was agreeable to the meeting and will probably be incorporated in a revised set of rules from the Division at an early date.

Concerning the question of the use of vacuum pumps, it was pointed out that in many instances this is an unjust practice and entails great hardship in the way of expense to operators. For instance, if one company uses vacuum pumps it immediately becomes necessary for all other operators in that vicinity to do likewise or suffer a decided decrease in their production. It was shown that the use of vacuum on a flow line often affects wells several hundred feet away. Instances were mentioned where the suction in a nearby well was strong enough to pull a hat into the hole.

### Vacuum

The unfairness of the promiscuous use of this method of taking gas from wells was recognized, and it was generally agreed that the Oil and Gas Division should permit the use of vacuum only by special permit. The present rule allows the Division to grant permits for the use of vacuum pumps in "depleted" fields only but under the proposed change this power will be extended to any field that the Division sees fit to grant it to.

Disadvantages of storing low gravity oil in covered earthen storage tanks was stressed by several operators from the Gulf Coast territory. The present rule on this point reads: "Open earthen storage for merchantable oil is hereafter prohibited, except when the Commission grants special permission in order to meet an unforeseen emergency. Where such storage is now in use, it must be discontinued within a reasonable time." Grounds for this rule as claimed by the Division were that valuable light fractions in this oil were lost through evaporation and that the oil deteriorated through exposure. The error of this was brought out by men experienced in handling coastal oil, and it was stated that facts show that a certain period of "standing still" exposed to the sunlight and atmosphere actually improves oil produced from Gulf Coast wells. W. S. Farish, president of the Humble Oil and Refining Company, stated that it was a policy of his company to furnish only oil of a minimum age to the refinery and that age was six months.

The disadvantage of closed storage from the standpoint of insurance was emphasized. Underwood Nazro of the Gulf Production Company, stated that no insurance company would insure oil stored in covered earthen tanks unless additional insurance was taken out on oil stored in all-steel air-tight tanks. He also stated that the insurance rate for oil stored in covered earthen tanks is higher than that stored in any other kind of storage.

Increased fire hazard resulting from covered earthen tanks was also stressed. Instances were mentioned where the gas accumulation in such tanks had

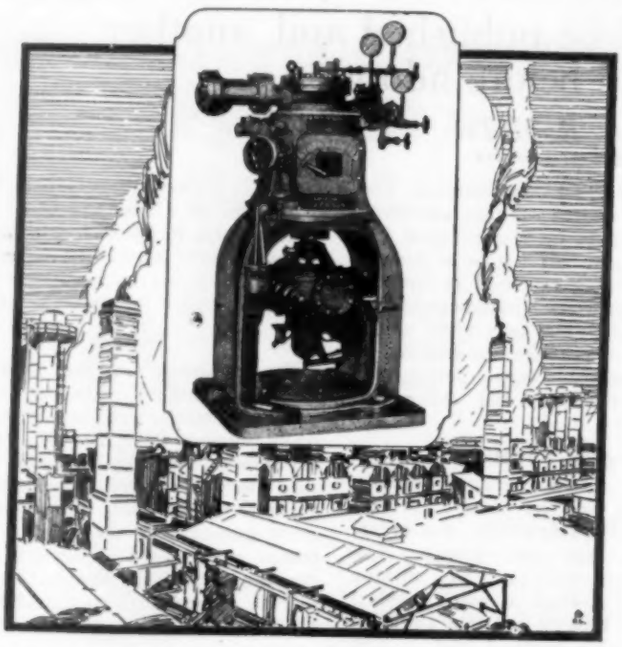
---

than a wooden ditch. Hence, it can be installed close to the derrick. A driller can watch his mud easier if it is near at hand. The photographs show that only about a third the walk is needed for a steel ditch; in fact, the walk can be dispensed with entirely if desired, by laying a board on top of the steel frame.

### Mobility

Perhaps the greatest benefit derived from the use of steel ditches in offset or wildcat wells is the saving in time. The ease of transportation is another significant saving. A steel ditch is lighter and requires less skill to install. This is especially important in the frenzy of drilling in a new field where its simplicity is such that the steel ditch pays for itself in the time saved alone. It might be predicted that soon all drilling contractors will furnish a steel ditch as they now furnish drill pipe.

# Byron Jackson Hot Oil Pumps



The Byron Jackson Pump Manufacturing Co., has pioneered the application of highly specialized centrifugal pumps to the requirements of hot oil. Of the vertical shaft type, these pumps are handling oils up to 1000 degrees F. and have been in successful operation not only in some of the biggest refineries in the United States but also in South America, the Dutch East Indies and Japan.

Outstanding features of these pumps are their safety and ease of operation and dependability.

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being ignited by lightning with disastrous fires following.

It was finally suggested that oil with a gasoline content lower than five per cent should not be forced into covered storage. The evaporation from such crude is so slight that it is negligible and there are no other bad results. When the conservation rules are revised there will probably be a definite specification for crude that can and cannot be stored in open tanks. Of course this rule will apply only where heavy oil is produced.

### Gas Recovery

The question of what percentage of gas should be allowed to be taken from wells, brought considerable technical discussion from those men associated with the gas producing districts. The present rule reads: "When the gas from any well is being used, the flow or production thereof shall be restrained to fifty (50) per cent of the potential capacity of the same; that is to say, any day (24) hours the well shall not be permitted to flow or produce more than one-half of the potential capacity thereof as shown by the last quarterly gauge; provided that this rule shall not apply to casing head gas, and provided further, that in cases of emergency greater production may be used after special authority therefor has been secured from the Railroad Commission of Texas".

In several states where large gas territories exist, the maximum output of individual wells is restricted to 25 per cent of their potential production, with provision for greater recovery under special conditions.

The general concensus of opinion was that the present rule for Texas has worked well and that it be not changed.

Suggestions were made, however, for provisions regulating the drilling of gas wells on small leases. It was shown that the "bunching" of several wells on a small area has led to water encroachments in Texas fields much earlier than would have been the result if proper spacing had been enforced. This is especially true in the Waskom and Panola fields in East Texas.

Another important suggestion concerning gas wells was that of casing used in high pressure districts. The necessity of all inner strings of casing being tested was stressed and a suggestion was made that all gas wells ought to be completed with an inner string of new seamless casing, A.P.I. specifications, and that all water strings used in gas wells ought to be tested. The use of second-hand casing in gas wells was discouraged and it is probable that the new conservation rules will touch on this point.

Different opinions were expressed regarding the practice of skimming off oil and leaving water standing in the bottom of the hole. Instances were mentioned where raising the tubing in this practice had resulted in greatly diminished production and the practice

# Derby Producer Revives Prospects Of Russell Pool

## Garber pool holding up oil production despite incroachment of water

*By Roye Munsell*
*Staff Representative*

Tulsa, Okla.—Since the Russell pool was discovered two years ago in west central Kansas by the Valerius Oil and Gas Company with their well in the SE SW 8-12-15, the field has been small and considered of little import, both due in a large part to four dry hole wells which were drilled around it.

The daily average production had settled to around 5500 barrels and the hopes of making it a larger producing area were pretty well blasted until the Derby Oil Company and others brought in their Dodge No. 1 for 500 barrels in the SE SW SW 32-11-15.

This well is one-half mile northwest of the Russell proper and points to a northwest extension to that district. The completion of the Dodge 1 as a commercial producer calls for three offsets to be made at once. They are: Tom C. Johnson on the Kollman farm, NW NE NW 5-12-15, diagonally southeast; H. H. Patton, also on the Kollman farm, NE NW NW 5-12-15; and the Midwest on the Booth farm in the SW SE SW 32-12-15.

### Sand at 2790 feet

The Derby Dodge 1 is producing from only three feet in a sand topped at 2790 feet. Whether or not it is really an extender to the Russell pool itself, i.e., a northwest trend of the Oswald sand, or rather that particular area, is undetermined as this is being written.

This well is two miles north of the Oswald discovery well by the Valerius in the SE SW 8-12-15. It will be noticed that the Dodge well at 2790 has its oil 30 feet higher than the Oswald horizon in the Russell district.

Another possibility is open, and that is that the new production is from the Dodge sand which is found a short distance north. This sand was discovered by the White Eagle Oil & Refining Company in the SE SW 29-12-15, or three miles north of the Russell pool. The Dodge No. 1 is a mile southwest of the Dodge sand discovery well.

The Dodge sand was expected, if at all, in this new well six feet higher than the pay which was found. It is interesting to compare the gravity of the oil found in the Dodge No. 1 with the Dodge sand production and with the Oswald sand production.

Dodge No. 1, 37.5 gravity.
Dodge sand, 32.0 gravity.
Oswald sand, 41.0 gravity.

Geologists are not yet decided whether the new production is from the Dodge sand or from the Oswald, associated with the Russell pool proper.

### New Activity

In the meantime, the Russell pool has taken on new interest and it is the scene of much activity. During the past week production in that field was increased more than 1500 barrels per day from the Oswald sand by three new wells and a slight deepening campaign on several old ones.

The new wells are: Valerius Oil & Gas Company's Oswald 7, NW SW NW 17-12-15, swabbing 240 barrels; Streeter, Stearns and Yankey, Oswald 7, NW SW SW 8-12-15, swabbing 250 barrels at 12 feet in the sand (to be deepened); and Tom C. Johnson's Kollman 2, NW 8-12-15, swabbing 300 barrels from three feet in the sand.

The production in Russell field now stands at around 7400 barrels per day from 42 wells. It is expected to go considerably over this figure in a very short time when the four wells on the Valerius lease, now owned by the Wilcox Oil & Gas Company come in. They are: Oswald 8, NE SE 7-12-15; Carrie Oswald 4, NW SE 8-12-15; C. Sutton 4, SW 5-12-15, and C. Sutton 5, one location east of No. 4.

### Siliceous Lime at Garber Holding Up

In spite of a tremendous output of water, and a rapidly increasing one, oil production from the siliceous lime in the Garber field is refusing to show the appropriate corresponding decline.

It is but a matter of time, however, until the drop sets in, and operators in that district are agreed that it will be rapid when it comes.

The oil seems to lie in the sand with the water and efforts to shut it off have been without much success. Endeavors to plug back to reduce the water have almost invariably failed to bring the desired results, and, more often than not, cut the oil production as well as the water output.

This is exemplified by the Roxana Petroleum Corporation's Wolfe 1-W, 13-24-4, which when plugged back decreased the water from 181 to 85 barrels daily and also the oil from 790 barrels to 342 daily.

### Braman Townsite Still on the Decline

Braman townsite pool continues to decline with no new wells added to hold up the daily output.

The Herbert Oil Company's original Braman well on the Community lease is dead, water having killed the oil in the 2300-foot Stalnaker sand. The Herbert Oil Company it is reported, has hopes of reviving it later on. This is doubtful.

The famous Bechtel lease has fallen to 7524. The Bechtel 1 which led the field in production now gauges 2430 barrels of oil and 399 barrels of water. The total gauge of the Comar Oil Corporation's ten wells in that pool, including the Bechtels, is 17,617 oil and 750 water.

### A Twin Pool to Rainbow Bend

The Marland Oil Company opened a new twin pool to the Rainbow Bend in southern Cowley County with its Holman 1, NW SW 19-33-3, one mile west of the bend.

It found the Burbank sand at 3194-3213 and a few feet in the hole filled with oil. On the swab it produced 80 barrels during the first twelve hours and when allowed to stand again it soon filled with oil.

The Marland Oil Company, it is reported has already made a location for a Holman 2, to be located in the NE SW 19-33-3. In the SE NW NW, same section, T. B. Slick and Marland are

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was severely criticized. It was shown that in the Powell field a number of good wells had been ruined by this practice.

Suggestion was made that skimming is the only method of production practicable in certain fields, and that if the practice be eliminated, these fields would have to shut down. The final agreement was that the practice be restricted by the Oil and Gas Division but that it be allowed where conditions justified it.

It was generally agreed that the open-flow method of testing the production of gas wells is wasteful as well as dangerous both from the standpoint of fire and safety to the men who have to do the work. Recommendations were made that new methods of testing gas wells be investigated and attempts made to do away with the present flow test as soon as possible.

It was announced by Judge H. E. Bell, chief supervisor of the Division that a set of proposed new rules embodying changes suggested at the conference would be drawn up and called to the attention of the industry in Texas through the press, a system of circularization, and by means of a public hearing at Austin in the near future, and that further suggestions concerning any changes in the rules, or entire new rules in addition to those now in use would be welcomed by the Division.

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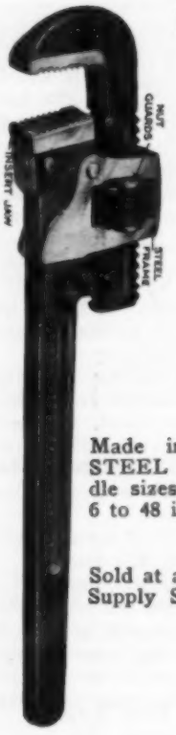


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drilling in their Heskett 2 in sand topped at 3213 with 1000 feet of oil in the hole.

To the north of the Holman 1, two locations and one east, T. B. Slick is at the top of the sand with his Heskett well at 3213 and is preparing to drill in.

### Rainbow Bend Extended Southeast

Another extension of the Bend was made, this time to the southeast, when the Waite Phillips, Independent and Marland Companies' Allison 2, SW SW NW 28-33-3, found the sand at 3261-3304 feet and started off with an initial flow of 480 barrels.

The generous rains which fell in Kansas during the past week have served to stimulate activity in that state. During the previous week, before the rains, the water situation was serious, in fact, it is reported that more wells were shut down because of it than were drilling.

In places where electric power was available, many operators installed electric motors and attempted to solve their water problem in that way.

It is interesting to note that there was a tendency among Kansas operators to let proven territory and inside wells go, and keep if possible "outside" wells running. This was exemplified by the instance just mentioned.

## Magnolia Test Fails to Extend Luling Field

Luling, Texas.—Failure to find oil in the Day wildcat of the Magnolia Petroleum Company, being drilled a mile from the proven Luling field in Guadalupe County, was this week the most disappointing event in activity in this district. The test will be drilled deeper, testing cut the Edwards lime and possibly lower formations.

A good showing of both oil and gas was found at around 1950 feet in the Taylor marl, which the company ordered tested. Casing was set and the well bailed. There were rainbows of oil continually showing up on the slush pit, but the crew failed to make the well produce.

The rig being used is a heavy one and is capable of carrying the bit down to the 5500-foot level, it is stated.

## Start Two Tests Near New Randado Producer

Laredo, Texas.—A location is being made for No. 3 J. W. Pippin in the new Randado field recently opened in Jim Hogg County by J. W. Pippin No. 2 on block 19, survey 291. The Magnolia Petroleum Company skidded the derrick from No. 1 about 300 feet west and is setting up tools for No. 2. Both the Pippin No. 3 and the Magnolia No. 2 will be drilled to around 1250 feet, where production was found in this area.

The Magnolia Petroleum Company is preparing to build a pipe line from the Henne, Winch and Farris pool to the new Randado pool, a distance of eight miles.

Leases in this district are selling for from $50 to $1,000 an acre. This acreage formerly sold for $7.50 an acre.

# Salt at 4700 Feet Stops Drilling At Markham

## Rycade abandons hope of deep production after six tests fail

*By Wallace Davis*
*Staff Representative*

Houston, Texas.—With the striking of salt by the Rycade Oil Corporation at a 4700-foot level in its Gray No. 3, north of the Markham dome, in Matagorda County, companies operating in the Gulf Coast with interest in this dome, have taken a more pessimistic turn concerning the future yield of the Markham field, and new fuel is added to the brewing contention that there is virtually no lateral deposits around the edge of the dome.

If such contentions are well founded, then Markham, numbered among producing fields of the Gulf Coast since June 6, 1908, offers no future growth as has been seen typical of some of the best present producing fields of this section. Its supply will be that of the cap rock deposits from around 1200 to 1300 feet, with a daily average output of something less than 100 barrels.

Until the present situation shaded the hopes of companies having holdings in and around the Markham field, this field, even with its meager output, was looked upon with no mean objective. And such a belief could be considered well based. Some of the strong producing fields of the Coastal territory have produced for years from the cap rock and then deeper drilling brought a further supply of production. Humble might be named as one of the best examples, it having produced approximately 45,000,000 barrels from the super-cap formation, and later, following the discovery of the deep sands off the edge of the dome in 1914, started a production from this level which today totals around 55,000,000 barrels.

Dr. Donald C. Barton, chief geologist of the Rycade Oil Corporation, takes a pessimistic view of any possibility of getting production from the flank of the Markham dome. In his opinion there seems to be no end to the dome as a long campaign of plugging in a backward direction from the center of the salt bed by the company continues to hit the salt, which, from indications revealed by a line of tests in an easterly and northerly direction, tapers gradually off to deeper levels. The apex of the dome was encountered by the Producers Oil Company at 2923 feet, showing the dome to be unusually far below the surface as compared with other domes in the coastal region. The gradual decline from the center in all directions places it, according to Dr. Barton, in the flat German type known as the Stassfurt dome. This dome is characterized more by ridges than by the circular lines typical of the coastal dome.

### Like German Domes

In the Rycade's Gray No. 1 test, several hundred feet south toward the center of the dome, the only supply of potash salts known to be present in the Texas Gulf Coast was discovered at 4800 feet. This is another indication of a close resemblance to the German flat ridge domes in that the world's greatest supply of potash ore is found in the Stassfurt domes common to most of the German fields. Possibilities of making a commercial potash field around the Markham dome is impractical, however, according to Dr. Barton, on account of the great depth of the potash formations.

The pessimistic view of Rycade Oil Corporation officials toward a possible future supply from the lateral sands long thought to circle the Markham dome follows the drilling of six wildcat tests in search for the edge of the dome, all of which hit the salt, each at a depth slightly lower as the company backed off from the center of the dome with its new locations. The Nos. 1 and 2 Hudson tests were drilled on the eastern side to 3258 and 4422 feet respectively. Later this company shifted its operations to the north side of the dome and spudded in its Meyers No. 1, which ran into salt at 3228 feet. Rycade backed off almost a thousand feet to the north and slightly west for a location for the Gray No. 1. This test struck salt at 3937 feet, and was followed by the Gray No. 2, which encountered the dome more than a thousand feet due north at 4018 feet. The Gray No. 3, again located 1000 feet in a northern direction, picked up the salt at 4700 feet.

Such action as that of the Rycade tests in a continued direct line away from the center of the salt mass, in the opinion of Dr. Barton, indicates that there is no end to the dome at a reasonable depth for drilling in this section of the country. Rycade has abandoned the Gray 3, and will, from present prospects, drill no more tests at Markham, even with the large holdings of the company there.

### History of Dome

The story of the Markham dome reveals some interesting historical facts. Oil was discovered long before there was known to be a dome under the production, which came first June 6, 1908, from a sandy strata in shale between 1306 and 1370 feet, which formation overlayed a thick clay covering the secondary dome materials. The dome was discovered several years later by the Producers Oil Company well No. 1 at a depth of 2923 feet after drilling to this depth from indications offered by gypsum found just above the salt.

The Hardy Oil Company's Hudson No. 1 was the discovery well at Markham with a flush production of 3500 barrels. Following the completion of this producer the drilling of 15 additional tests got four small producers Many of the tests were wrecked by blowouts. The Producers Oil Company then took over 2000 acres of the Hudson and Meyers leases and got two small producers from four tests. In 1905 a hurricane wrecked the field after which the leases were transferred back to the Hardy Oil Company.

Shortly after the wrecking of the field the Clem Oil Company took over a 40-acre lease and drilled the Meyers No. 1, known as the Black Maria, which blew itself in for 15,000 barrels to flow one day and sand up. Later this well settled at a 150-barrel pumper, was deepened twice, and is still producing.

The Paystreak Oil Company then subleased 40 acres from the Hardy and deepening the latter company's Smith No. 12, got a 5000-barrel initial producer, which flowed six months at 1000 barrels. The Hardy Oil Company offset this well with the Smith No. 24, and brought it in to flow 80,000 barrels in 20 days before sanding up.

The peak of the Markham field came in 1910 when the Producers Oil Company subleased 15 acres and made a successful producer of the Clem No. 1 with a flush production of 7200 barrels. Later, in 1916, the Clem Oil Company completed its Meyers No. 10 for 4000 barrels. During the same year Doheny tried the use of standard tools at Markham, but met with failure, and the outfit was junked.

Most of Markham's production has come from sands ranging in depth from 1250 to 1350 feet with some production coming from sands slightly above and below this level. The efforts of many companies to bring pay from deeper sands have failed year after year, but it was not until the past week with the finding of salt thousands of feet on the best possible producing side of the dome that operators there have, in part if not altogether, decided that production from the lateral sands of the dome is highly improbable.

# CRUDE OIL PRICE QUOTATIONS

## Current Postings

### CALIFORNIA

**Kern River, Wheeler Ridge, McKittrick, Lost Hills, Coalinga, Newhall, Midway, Sunset, Elk Hills**

| | Sept.30 1925 |
|---|---|
| 14 to 19.9 gravity | .90 |

**La Habra, Whittier**

| | |
|---|---|
| 14 to 19.9 gravity | 1.00 |
| 20 gravity | 1.01 |
| 21 gravity | 1.02 |
| 22 gravity | 1.03 |

**Montebello**

| | |
|---|---|
| 14 to 19.9 gravity | 1.00 |
| 20 gravity | 1.01 |
| 21 gravity | 1.02 |
| 22 gravity | 1.03 |
| 23 gravity | 1.05 |
| 24 gravity | 1.07 |
| 25 gravity | 1.09 |
| 27 gravity | 1.11 |
| 28 gravity | 1.16 |
| 29 gravity | 1.19 |
| 30 gravity | 1.22 |

***Torrance, Richfield, Inglewood, Brea, Olinda, Signal Hill, Huntington Beach**

| | |
|---|---|
| 14 gravity | 1.00 |
| 15 gravity | 1.02 |
| 16 gravity | 1.04 |
| 17 gravity | 1.06 |
| 18 gravity | 1.08 |
| 19 gravity | 1.10 |
| 20 gravity | 1.12 |
| 21 gravity | 1.14 |
| 22 gravity | 1.16 |
| 23 gravity | 1.18 |
| 24 gravity | 1.22 |
| 25 gravity | 1.26 |
| 26 gravity | 1.30 |
| 27 gravity | 1.34 |
| 28 gravity | 1.38 |
| 29 gravity | 1.42 |
| 30 gravity | 1.46 |
| 31 gravity | 1.52 |

*Inglewood and Torrance follow this posting through 28 degrees only.

**Lost Hills, Midway, Sunset, Elk Hills**

| | |
|---|---|
| 14 to 19.9 gravity | .90 |
| 20 gravity | .94 |
| 21 gravity | .98 |
| 22 gravity | 1.02 |
| 23 gravity | 1.06 |
| 24 gravity | 1.10 |
| 25 gravity | 1.16 |
| 26 gravity | 1.24 |
| 27 gravity | 1.32 |
| 28 gravity | 1.40 |
| 29 gravity | 1.48 |
| 30 gravity | 1.56 |
| 31 gravity | 1.64 |
| 32 gravity | 1.72 |
| 33 gravity | 1.80 |
| 34 gravity | 1.88 |

**Coalinga, Wheeler Ridge**

| | |
|---|---|
| 20 gravity | .91 |
| 21 gravity | .92 |
| 22 gravity | .93 |
| 23 gravity | .95 |

**Wheeler Ridge**

| | |
|---|---|
| 14 to 19.9 gravity | .90 |
| 20 gravity | .91 |
| 21 gravity | .92 |
| 22 gravity | .93 |
| 23 gravity | .95 |
| 24 gravity | .97 |
| 25 gravity | .99 |
| 26 gravity | 1.01 |
| 27 gravity | 1.03 |

**Coalinga**

| | |
|---|---|
| 14 to 19.9 gravity | .90 |
| 20 gravity | .91 |
| 21 gravity | .92 |
| 22 gravity | .93 |
| 23 gravity | .94 |
| 24 gravity | .99 |
| 25 gravity | 1.04 |
| 26 gravity | 1.09 |

| | Sept.30 1925 |
|---|---|
| 27 gravity | 1.14 |
| 28 gravity | 1.19 |
| 29 gravity | 1.24 |
| 30 gravity | 1.29 |
| 31 gravity | 1.34 |
| 32 gravity | 1.39 |
| 33 gravity | 1.44 |
| 34 gravity | 1.49 |
| 35 gravity | 1.54 |

**Signal Hill**

| | |
|---|---|
| 31 gravity | 1.52 |

**Coyote Hills**

| | |
|---|---|
| 14 to 19.9 gravity | 1.00 |
| 20 gravity | 1.02 |
| 21 gravity | 1.04 |
| 22 gravity | 1.08 |
| 23 gravity | 1.12 |
| 24 gravity | 1.16 |
| 25 gravity | 1.20 |
| 26 gravity | 1.24 |
| 27 gravity | 1.30 |
| 28 gravity | 1.36 |
| 29 gravity | 1.42 |
| 30 gravity | 1.48 |

**Santa Fe Springs**

| | |
|---|---|
| 24 gravity | 1.07 |
| 25 gravity | 1.10 |
| 26 gravity | 1.16 |
| 27 gravity | 1.22 |
| 28 gravity | 1.28 |
| 29 gravity | 1.34 |
| 30 gravity | 1.40 |
| 31 gravity | 1.46 |
| 32 gravity | 1.52 |
| 33 gravity | 1.60 |
| 34 gravity | 1.68 |
| 35 gravity | 1.76 |
| 36 gravity | 1.84 |
| 37 gravity | 1.93 |
| 38 gravity | 2.00 |

**Rosecrans, Domingues**

| | |
|---|---|
| 26 gravity | 1.30 |
| 27 gravity | 1.34 |
| 27 gravity | 1.38 |
| 28 gravity | 1.42 |
| 29 gravity | 1.46 |
| 30 gravity | 1.50 |
| 31 gravity | 1.52 |
| 32 gravity | 1.52 |
| 33 gravity | 1.64 |
| 34 gravity | 1.70 |
| 35 gravity | 1.76 |
| 36 gravity | 1.84 |
| 37 gravity | 1.92 |
| 38 gravity | 2.00 |
| 39 gravity | 2.08 |
| 40 gravity | 2.16 |
| 41 gravity | 2.24 |
| 42 gravity | 2.30 |

### EASTERN STATES

| | |
|---|---|
| New York Transit | 3.15 |
| Bradford District | 3.15 |
| National Transit | 3.05 |
| Southwest | 3.05 |
| Eureka | 3.00 |
| Macksburg | 2.80 |
| Gains | 2.70 |
| Somerset medium | 2.20 |
| Somerset light | 2.35 |
| Cabell | 2.10 |
| Ragland | 1.10 |
| Corning | 1.80 |

### CENTRAL STATES

| | |
|---|---|
| Illinois | 1.87 |
| Indiana | 1.88 |
| Lima | 1.98 |
| Plymouth | 1.40 |
| Princeton | 1.87 |
| Waterloo | 1.00 |
| Wooster | 2.00 |

### WESTERN KENTUCKY

**Posted by Indian Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, Cumberland and Monroe Counties**

| | |
|---|---|
| 36 and above | 2.05 |
| 33 to 35.9 | 1.95 |
| 32.9 and below | 1.85 |

### MID-CONTINENT

***Prairie, Sinclair, Texas, Gulf**

| | Sept.30 1925 |
|---|---|
| 28 to 28.9 gravity | 1.15 |
| 29 to 29.9 gravity | 1.25 |
| 30 to 30.9 gravity | 1.31 |
| 31 to 31.9 gravity | 1.39 |
| 32 to 32.9 gravity | 1.47 |
| 33 to 33.9 gravity | 1.55 |
| 34 to 34.9 gravity | 1.63 |
| 35 to 35.9 gravity | 1.71 |
| 36 to 36.9 gravity | 1.79 |
| 37 to 37.9 gravity | 187 |
| 38 to 38.9 gravity | 1.95 |
| 39 to 39.9 gravity | 2.03 |
| 40 to 40.9 gravity | 2.11 |
| 41 to 41.9 gravity | 2.19 |
| 42 to 42.9 gravity | 2.27 |
| 43 to 43.9 gravity | 2.35 |
| 44 Baume gravity and above | 2.43 |

*Prairie, Sinclair and Gulf prices apply to Oklahoma, Kansas and North Texas but Texas Company postings apply to Oklahoma only. Magnolia postings apply to Oklahoma and Kansas.

**Magnolia Petroleum Company**

| | Texas | Ok. & Kans. |
|---|---|---|
| Under 28 gravity | 1.00 | 1.00 |
| 28 to 30.9 gravity | 1.31 | 1.31 |
| 30.9 to 31.9 gravity | 1.39 | 1.39 |
| 32 to 32.9 gravity | 1.59 | 1.47 |
| 33 to 33.9 gravity | 1.65 | 1.55 |
| 34 to 34.9 gravity | 1.71 | 1.63 |
| 35 to 35.9 gravity | 1.77 | 1.71 |
| 36 to 36.9 gravity | 1.83 | 1.79 |
| 37 to 37.9 gravity | 1.89 | 1.87 |
| 38 to 38.9 gravity | 1.95 | 1.95 |
| 39 to 39.9 gravity | 2.01 | 2.03 |
| 40 to 40.9 gravity | 2.07 | 2.11 |
| 41 to 41.9 gravity | 2.13 | 2.19 |
| 42 to 42.9 gravity | 2.19 | 2.27 |
| 43 to 43.9 gravity | 2.25 | 2.35 |
| 44 Baume and above | 2.31 | 2.43 |

### NORTH AND CENTRAL TEXAS

For Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Somerset crude.

| | Somerset (Grayburg) | The Texas Co. | Humble O. & R. Co. |
|---|---|---|---|
| 28 to 28.9 | 1.15 | 1.35 | 1.35 |
| 29 to 29.9 | 1.25 | 1.41 | 1.41 |
| 30 to 30.9 | 1.31 | 1.47 | 1.47 |
| 31 to 31.9 | 1.39 | 1.53 | 1.53 |
| 32 to 32.9 | 1.47 | 1.59 | 1.59 |
| 33 to 33.9 | 1.55 | 1.65 | 1.65 |
| 34 to 34.9 | 1.63 | 1.71 | 1.71 |
| 35 to 35.9 | 1.71 | 1.77 | 1.77 |
| 36 to 36.9 | 1.79 | 1.83 | 1.83 |
| 37 to 37.9 | 1.87 | 1.89 | 1.89 |
| 38 to 38.9 | 1.95 | 1.95 | 1.95 |
| 39 to 39.9 | 2.01 | 2.01 | 2.01 |
| 40 to 40.9 | 2.07 | 2.07 | 2.07 |
| 41 to 41.9 | 2.13 | 2.13 | 2.13 |
| 42 to 42.9 | 2.19 | 2.19 | 2.19 |
| 43 to 43.9 | 2.25 | 2.25 | 2.25 |
| 44 and above | 2.31 | 2.31 | 2.31 |

### SOUTH TEXAS

| | |
|---|---|
| Mirando (Texpata) | 1.00 |
| Mirando (Magnolia) | 1.15 |

### GULF COAST

| | |
|---|---|
| Grade "A" | 1.50 |
| Grade "B" at Blue Ridge, Hull and Pierce Junction | 1.25 |

### LULING

| | |
|---|---|
| Based on Contract | 1.05 |

(Continued on next page)

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SINCLAIR OILS

## LOUISIANA-ARKANSAS

### Caddo

| | Sept.30 1925 |
|---|---|
| 38 gravity and above | 1.95 |
| 35 to 37.9 gravity | 1.85 |
| 32 to 34.9 gravity | 1.75 |
| Below 32 gravity | 1.65 |

### Homer

| | |
|---|---|
| 35 gravity and above | 1.75 |
| 33 to 34.9 gravity | 1.65 |
| 31 to 32.9 gravity | 1.55 |
| Below 31 gravity | 1.40 |

### Cotton Valley

| | |
|---|---|
| All Grades | 1.10 |

### Haynesville

| | |
|---|---|
| 33 gravity and above | 1.65 |
| Below 33 gravity | 1.55 |

### Bull Bayou

| | |
|---|---|
| 38 gravity and above | 1.75 |
| 35 gravity to 37.9 | 1.60 |
| 32 to 34.9 gravity | 1.45 |
| De Soto crude | 1.80 |

| | Sept.30 1925 |
|---|---|
| Crichton | 1.60 |
| Bellevue | 1.65 |
| Jennings | 1.50 |
| Vinton | 1.50 |
| Edgerly crude | 1.50 |

### Smackover
(Standard, Gulf, Louisiana, Shreveport-El Dorado and Atlanta)

| | |
|---|---|
| 27 and above | 1.30 |
| 26 to 26.9 gravity | 1.25 |
| 25 to 25.9 gravity | 1.20 |
| 24 to 24.9 gravity | 1.15 |
| Below 24 gravity | .85 |

### The Texas Company

| | |
|---|---|
| 26 to 26.9 gravity | 1.25 |
| 25 to 25.9 gravity | 1.20 |
| 24 to 24.9 gravity | 1.15 |

### El Dorado

| | |
|---|---|
| 33 gravity and above | 1.65 |
| Below 33 gravity | 1.55 |
| East Field (Calion) | .85 |

### Stephens District

| | Sept.30 1925 |
|---|---|
| 26 gravity and above | 1.40 |
| Below 26 gravity | 1.20 |

## WYOMING-MONTANA

### Wyoming

| | |
|---|---|
| Byron | 2.00 |
| Ferris | 1.05 |
| Elk Basin | 1.90 |
| Grass Creek | 1.90 |
| Rock Creek | 1.75 |
| Lost Soldier | 1.10 |
| Lance Creek | 1.90 |
| Mule Creek | 1.25 |
| Notches | .40 |
| Big Muddy | 1.75 |
| Osage | 1.90 |
| Hamilton Dome | 1.55 |
| Pilot Butte | 1.50 |
| Torchlight-Greybull | 1.90 |
| Lander | .60 |

### Salt Creek
(Midwest Refining Company)

| | |
|---|---|
| 29 to 29.9 gravity | 1.23 |
| 30 to 30.9 gravity | 1.31 |
| 31 to 31.9 gravity | 1.39 |
| 32 to 32.9 gravity | 1.47 |
| 33 to 33.9 gravity | 1.55 |
| 34 to 34.9 gravity | 1.63 |
| 35 to 35.9 gravity | 1.71 |
| 36 to 36.9 gravity | 1.79 |
| 37 to 37.9 gravity | 1.87 |

### Montana

| | |
|---|---|
| Sunburst | 1.30 |
| Cat Creek | 1.90 |

## NEW MEXICO

| | |
|---|---|
| Artesia | 1.45 |
| Hogback | 1.95 |

## CANADIAN CRUDE

| | |
|---|---|
| Oil Springs | 2.45 |
| Petrolia | 2.38 |

*Bounty on Canadian crude is ¾ cent per gallon, or 26¼ cents per barrel.


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## Kleinfelder's Third Well Makes 340 Barrels in 12 Hours

Breckenridge, Texas.—B. S. Kleinfelder and associates' third test on the J. H. Grimes land, section 24 and about three and one-half miles south of Breckenridge, flowed 340 barrels natural with strong gas pressure during the first 12 hour gauge after drilling lime pay at 3180-90 feet. The new producer is located a short distance northeast of the first two completions, which came in with heavy gas pressure and a small volume of oil from the same horizon. About two miles due south of the Kleinfelder lease, a 12,500,000 cubic foot gas well was brought in last week by the Landreth Production Corporation's K. Gratz 3, which is 15 feet in the gray lime pay at a total depth of 3143 feet, and will be carried to black lime at 3300 feet when the gas is cased off.

Townsite drilling at Cross Plains in Calhoun County is now furnishing more producers than dry holes, and during the past week 600 barrels of flush production was added from four new wells, with one failure in block 6. Lowe-Delaney & Carter's Block 76 Townsite made 290 barrels initial from regular sand at 1428-31 feet, and Brannon-McMurray and others' Townsite Block 85 swabbed 145 barrels initial at 1426-34 feet. The oil sand in this new field is comparatively thin, and operators are not taking more than 10 feet of pay when drilling in, while the majority of the best wells have drilled only four feet of sand.

# Prairie Negotiating for Line Outlet To Gulf Coast

## Active solicitation of connection by Coastal buyers strengthens crude market

*By Kent Ridley,*
*Staff Representative*

WITH no change in the market situation over the week except a slight weakening of gasoline which has a slight distance to go before it brings danger of another crude cut, the talent has turned its attention to consideration of the circumstance that several of the larger buyers are actively seeking connections, and rumors of a pending deal which will give the Prairie a pipe line outlet to the Gulf.

These two circumstances have served to strengthen the crude market to the extent that for the first time in weeks there is no talk of pending crude cuts.

While nothing official has been given out, the rumor that the Prairie is dickering with the Pure Oil Company for an outlet to the Gulf is lending strength to the Mid-Continent crude market. Negotiations are said to be pending between the two companies for the sale of an interest or control of the Pure Oil Pipe Line Company of Texas, eight-inch line from Mexia to Smith's Bluff, near Beaumont. This line is ideally adapted to Prairie's needs to provide an outlet for oil now going to storage and which could be better sold if transportation could be lowered.

Prairie officials have been in the Mexia Corsicana district during the past 10 days making a personal inspection of Pure's properties. The trunk line originates near Teague, southeast of the Mexia field and terminates at Pure's refinery and tank farm at Smith's Bluff, a total of 208 miles besides 57 miles of eight-inch loops. The trunk line has a maximum daily capacity of 31,000 barrels. A gathering line consisting of 33 miles of eight-inch extends to the Corsicana-Powell field, while a similar sized line 12 miles in length serves the Mexia-Wortham district. Pure has more than six million barrels of stel storage facilities.

Preliminary steps towards obtaining a tidewater outlet for Mid-Continent crude by Prairie develops a new and favorable angle to the crude market. Prairie is being burdened with a great surplus of crude stocks, while four other major crude buyers in Texas and Oklahoma with Gulf Coast outlets are welcoming new connections in all fields. Prairie's current crude receipts are reputed to be 30,000 barrels or more daily in excess of deliveries, with a portion of this surplus originating in North and East Central Texas fields. Predictions have been made for a number of years that Prairie would eventually have to seek a direct pipe line outlet to the Gulf in order to maintain its position as the major buyer in the Mid-Continent.

The Pure Oil Pipe Line Company of Texas is dependent entirely on the Mexia-Corsicana district for its supply of crude, and now that the five fields comprising the district are being depleted rapidly with no prospects of new production being available in the near future the line offers a problem for its owners. Pure's line has transported approximately 24,000,000 barrels since its completion in May, 1922. Considerable common carrier business has been performed by Pure, and in recent months when the company's production declined along with other capacity was upheld by drawing on crude leases in the Mexia-Corsicana district line stocks. Since Pure's trunk line originated at the southernmost end of Prairie's system, the two units could be hooked up with no expense.

### Gulf Refiners Buying

Representatives of the Gulf Production Company launched a vigorous campaign for new crude connections in all high gravity fields in Texas served by Gulf's pipe line during the past week. The Texas Company has been somewhat active lately in soliciting new crude for purchase, as is the case with Sinclair, while Magnolia is accepting all new connections made available. These four companies are particularly interested in light oil, and have large refining plants on the Gulf Coast.

Decline of current production in Oklahoma and Texas fields below refinery requirements is the explanation offered by representatives of Gulf in soliciting new connections. This is the first intensive campaign waged by Gulf for light oil in Texas in years, and is probably due to the failure of the Gypsy Oil Company, Gulf's Oklahoma subsidary, to check production losses, which amounted to 580,959 barrels in Oklahoma during the second quarter of 1925 as compared to the first quarter of the year. On the other hand Gulf's production in Texas gained 655,890 barrels during the second quarter of 1925 on the strength of field work carried on in North Texas, and in the Coastal district.

Crude contract held by Sinclair with Atlantic Refining Company for delivery of a maximum of 7000 barels of oil daily to Gulf ports over a long period has been a major factor in keeping Sinclair free from surplus crude on the lower end of its Mid-Continent system, and the rapid depletion of the fields in the Mexia-Corsicana district has made it necessary for new connections to be made in other parts of the state to assure the fulfillment of this contract.

Humble is taking somewhere near 27,500 barrels daily on long life contracts and lump purchases from the Big Lake field in West Texas via pipe line and tank cars, and as result of this large supply considerable oil is going to storage daily in the Mexia-Corsicana district. Humble's pipe line system is confined to Texas, and has been the largest transporter of Texas crude for several years. Humble is not displaying its normal interest in new crude connections, although additional oil is being solicited in some fields, and some connections have been voluntarily surrendered lately.

The numerous angles—both good and adverse—developing into the Mid-Continent crude market situation during September after weathering a late summer dull period with only one crude price reduction makes the next move a matter of conjecture. The safety of the crude market largely depends on what disposition can be made of gasoline manufactured this winter, with enormous stocks already on hand.

Other than orders already booked, Mid-Continent refiners reported a slower movement of gasoline at the opening of the present week, and prices softened a quarter of a cent with the first evidence of a buying lull. Actual sales of United States motor grade gasoline were made at 10 to 10¼ cents last week, representing a full two cent increase from the seasonal low experienced around the first of September, but prices broke below 10 cents at the opening of business this week. Domestic jobbers are comfortably stocked with gasoline to fill their needs for a short period, and with exporters entirely out of the market at prevailing prices, the refiners are beginning to shade their quotations.

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**Brooks Gutelius** has been named district manager in Oklahoma for the Continental Supply Company, and will have district headquarters in Tulsa. Prior to his new connection Mr. Gutelius was associated with the National Supply Company. His acquaintance in this territory is extensive.

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**Jesse Stickel,** sales manager for the Crown-Central Oil Corporation, left Houston last week for New York following the receipt of a telegram telling of the sudden death of his father.

# AVERAGE DAILY PRODUCTION FOR U.S.

## Mountain States

Daily average pipe line runs from all the fields in the Rocky Mountains during the past and previous weeks follow:

| Field— | Past Week | Prev. Week |
|---|---|---|
| Salt Creek | 67,480 | 68,640 |
| Lost Soldier | 5,430 | 5,980 |
| Grass Creek | 3,700 | 3,990 |
| Big Muddy | 3,400 | 3,015 |
| Rock Creek | 2,940 | 2,940 |
| Poison Spider | 1,000 | 1,200 |
| Teapot | 1,580 | 1,660 |
| Elk Basin | 875 | 1,010 |
| Mule Creek | .... | 701 |
| Hamilton Dome | 630 | 625 |
| Lance Creek | 625 | 625 |
| Osage | 475 | 350 |
| Lander | 275 | 315 |
| Greybull | 190 | 175 |
| Notches | 160 | 175 |
| Ferris | 75 | 110 |
| Pilot Butte | 70 | 300 |
| Rex Lake | .... | 100 |
| Totals | 88,905 | 91,920 |
| **COLORADO** | | |
| Craig | 2,140 | 2,215 |
| Fort Collins | 1,140 | 1,280 |
| Florence | 265 | 260 |
| Tow Creek | 115 | 120 |
| Rangely | 100 | 100 |
| Boulder | 25 | 30 |
| Totals | 3,785 | 4,005 |
| **MONTANA** | | |
| Kevin-Sunburst | 9,500 | 11,500 |
| Cat Creek | 2,875 | 3,100 |
| Totals | 12,375 | 14,600 |
| **NEW MEXICO** | | |
| Artesia | 3,000 | 2,900 |
| Hogback | 555 | 550 |
| Rattlesnake | 440 | 410 |
| Totals | 3,995 | 3,860 |
| Miscellaneous | 200 | 200 |
| Rocky Mountain Totals | 109,260 | 114,585 |

## Kansas

| | | |
|---|---|---|
| Greenwood County | 32,720 | 32,170 |
| El Dorado | 15,300 | 15,300 |
| Rainbow Bend | 9,910 | 9,577 |
| Elbing- Peabody | 5,560 | 5,560 |
| Augusta-Douglas | 4,100 | 4,100 |
| Blankenship | 3,580 | 3,570 |
| Florence-Covert | 1,920 | 1,900 |
| Other Fields | 27,240 | 27,210 |
| Totals | 100,330 | 99,337 |

## California

Los Angeles, Calif.—Daily average production of light and heavy crudes in the principal California fields during the week ending September 26, compared with averages established the week previous, is given in the table below:

| Field— | Past Week | No. Prod. Wells | Prev. Week |
|---|---|---|---|
| Long Beach | 108,900 | 537 | 108,200 |
| Inglewood | 93,800 | 148 | 96,600 |
| Santa Fe Springs | 55,175 | 350 | 55,200 |
| Huntington Beach | 46,000 | 316 | 46,300 |
| Torrance | 35,200 | 563 | 37,500 |
| Dominguez | 29,100 | 61 | 29,850 |
| Athens-Rosecrans | 25,300 | 80 | 26,925 |
| Others | 274,500 | | 276,000 |
| Totals | 667,975 | | 676,575 |

## Oklahoma

| | Past Week | Prev. Week |
|---|---|---|
| Burbank | 53,850 | 53,940 |
| Tonkawa | 54,204 | 52,850 |
| Bristow | 40,860 | 43,480 |
| Cromwell | 28,000 | 28,910 |
| Osage (outside Burbank) | 34,990 | 34,980 |
| Okmulgee | 25,980 | 25,410 |
| Cushing | 21,500 | 21,120 |
| Braman | 21 220 | 19,600 |
| Gilcrease-Papoose | 12 950 | 12,100 |
| Hewitt | 16,000 | 15,860 |
| Garber | 36,886 | 34,950 |
| Wewoka | 10,960 | 10,380 |
| Otoe | 8,780 | 8,720 |
| Stroud | 4,240 | 4,210 |
| Thomas | 4,440 | 3,700 |
| Other Fields | 27,240 | 27,210 |
| Totals | 100,330 | 99,337 |

## Louisiana

| | | |
|---|---|---|
| Haynesville | 12,400 | 12,410 |
| Cotton Valley | 10,490 | 10,685 |
| Caddo Light | 9,000 | 8,985 |
| Vinton | 6,825 | 6,800 |
| Homer | 6,245 | 6,255 |
| Bull Bayou | 4,110 | 4,085 |
| Bellevue | 2.900 | 2.905 |
| Lockport (Lake Charles) | 2.450 | 2,360 |
| Caddo Heavy | 2,060 | 1,955 |
| Evangeline | 975 | 935 |
| Edgerly | 540 | 550 |
| Elm Grove | 530 | 525 |
| Urania | 145 | 165 |
| Anse Le Butte | 25 | 20 |
| Total | 58,695 | 58,635 |

## Arkansas

| | | |
|---|---|---|
| Smackover Heavy | 174,405 | 181,590 |
| Smackover Light | 25 950 | 25,210 |
| El Dorado | 8 835 | 8,805 |
| Stephens | 1,805 | 1,820 |
| Irma | 1,355 | 1,390 |
| Totals | 212,350 | 218,815 |

## Texas

### NORTH CENTRAL

| | Past Week | Prev. Week |
|---|---|---|
| Corsicana-Powell | 42,390 | 43,495 |
| Archer County | 35,740 | 35,740 |
| Big Lake-Reagan County | 32.090 | 31.005 |
| Wortham | 22,100 | 22,350 |
| Mexia | 18,175 | 18,325 |
| Electra | 17,670 | 17,560 |
| Burkburnett | 14,155 | 14,050 |
| Stephens County | 13,490 | 13,560 |
| Young County | 10,895 | 10,705 |
| Eastland County | 9,870 | 9,845 |
| So. Vernon Wilbarger Co. | 9,460 | 8,915 |
| K-M-A and Iowa Park | 5,995 | 6 070 |
| Panhandle District | 4,515 | 4 285 |
| Richland | 3,450 | 3,525 |
| Callahan County | 3,355 | 3 200 |
| Moran Shackelford Co. | 3,100 | 3 110 |
| Brown County | 2 810 | 2,825 |
| Mitchell County | 2,535 | 2 405 |
| Curry County | 1,350 | 1,340 |
| Palo Pinto County | 585 | 590 |
| Petrolia-Clay County | 370 | 335 |
| Montague County | 310 | 325 |
| Coleman County | 270 | 260 |
| Baylor County | 265 | 240 |
| Throckmorton County | 195 | 205 |
| Scurry County | 40 | 40 |
| Jack County | 30 | 25 |
| Thrall-Williamson County | 40 | 50 |
| Totals | 255,250 | 254,360 |

### GULF COAST

| | | |
|---|---|---|
| Hull | 18,400 | 18,900 |
| South Liberty | 16,100 | 16,525 |
| Orange | 15,775 | 15,775 |
| West Columbia | 10,430 | 11,675 |
| Goose Creek | 9,710 | 9,475 |
| Humble | 3,900 | 4,700 |
| Sour Lake | 4,200 | 4,225 |
| Saratoga | 1,575 | 1 565 |
| Batson | 1.330 | 1,330 |
| Spindletop | 1,125 | 1,145 |
| Damon Mound | 1,100 | 1,125 |
| Big Creek | 1,125 | 1,000 |
| Pierce Junction | 875 | 900 |
| Blue Ridge | 610 | 550 |
| High Island | 75 | 300 |
| Barbers Hill | 125 | 130 |
| Markham | 80 | 75 |
| Dayton | 50 | 50 |
| Nacogdoches | 30 | 30 |
| Total | 85,615 | 89,475 |
| Total North Texas | 255,250 | 254,360 |
| Luling | 24,200 | 24,200 |
| Lockhart (Lytton Springs) | 11 816 | 12,100 |
| Mirando | 6,300 | 6,200 |
| Somerset | 2,370 | 2,470 |
| Misc. South Texas | 480 | 500 |
| Total Texas | 387,031 | 389,385 |

## Condensed U. S. Production for Twelve Months

(Stated in Barrels)

This table is compiled each week by The OIL WEEKLY, and shows daily production average for each state or section.

| Daily average for month | *Mid-Continent | North Central Texas | Texas Coastal | Texas Total | Kansas | Okla | Louisiana | Eastern States | Wyo. Mont. Colo. New Mexico | Calif | Ark. | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| June | 799,230 | 260.785 | 74,335 | 375,310 | 74,265 | 464,175 | 62.660 | 105,750 | 125,735 | 628.400 | 157,165 | 1,993,465 |
| July | 815,830 | 254,665 | 75,445 | 378,365 | 81,545 | 479,620 | 63,855 | 107,175 | 124,305 | 620,175 | 148,655 | 2,003,695 |
| August | 861,640 | 254,520 | 75,700 | 377,045 | 85,765 | 521,355 | 62,595 | 107,000 | 123,895 | 619,700 | 142,740 | 2,037,890 |
| September | 886,650 | 253,243 | 76,953 | 366,197 | 86,758 | 546,647 | 62,162 | 107,622 | 117 345 | 611,500 | 131,343 | 2,029,580 |
| October | 855,823 | 247 222 | 75,713 | 359,861 | 86 884 | 521,717 | 62.493 | 106,600 | 107,270 | 605,060 | 123,235 | 1,972,902 |
| November | 851,733 | 248,467 | 71,648 | 369,621 | 86,031 | 517,237 | 66,117 | 106,375 | 91,205 | 594,000 | 119,893 | 1,950,478 |
| December | 873,344 | 267,065 | 65,437 | 385,410 | 88,065 | 518,213 | 59 602 | 106,875 | 83,472 | 606,875 | 111,402 | 1,959,917 |
| January | 906,160 | 334,305 | 65,065 | 448,900 | 88,300 | 483,465 | 56,520 | 106,200 | 78,435 | 602,600 | 106,280 | 1,970,350 |
| February | 861,130 | 292,796 | 63,885 | 405,195 | 88,790 | 479,545 | 56,825 | 105,125 | 87,710 | 598,375 | 106,085 | 1,927,680 |
| March | 839,200 | 301,795 | 83,800 | 434,410 | 84,965 | 452,440 | 58,030 | 100,550 | 90,900 | 605,775 | 112,425 | 1,939,520 |
| April | 836,110 | 294,040 | 94,215 | 435,035 | 84,360 | 457,710 | 57,700 | 98,250 | 91,845 | 602,800 | 209,840 | 2,037,545 |
| May | 835,350 | 295,695 | 100,205 | 447,080 | 93,610 | 446,040 | 60,945 | 101,140 | 91,492 | 609,200 | 419,770 | 2,269,280 |
| June | 834,927 | 286 095 | 94,514 | 432,121 | 98,220 | 450,637 | 59,977 | 103,675 | 87,477 | 642,500 | 349,962 | 2,249,296 |
| July | 807,949 | 272,119 | 94,669 | 414,673 | 96,967 | 438,863 | 60,328 | 104,360 | 99,726 | 671 440 | 247,574 | 2,133,932 |
| August | 799,855 | 265,313 | 88,182 | 399,851 | 94 082 | 440,435 | 59,940 | 104,450 | 106,415 | 679,650 | 242,395 | 2,127,019 |
| Sept. 5 | 832,735 | 266,175 | 89,830 | 399,290 | 99,390 | 467,170 | 58,220 | 106,800 | 109 285 | 686,250 | 224,055 | 2,150,460 |
| Sept. 12 | 817,270 | 259,915 | 88,940 | 394,085 | 99,100 | 458,255 | 59,260 | 107,200 | 112,630 | 679,700 | 218,125 | 2,128,355 |
| Sept. 19 | 825,467 | 254,360 | 89,475 | 389,305 | 99,337 | 471,770 | 58,635 | 107,000 | 114,585 | 676,575 | 218,815 | 2,136,022 |
| Sept. 26 | 837,840 | 255,250 | 86,615 | 387,031 | 100,330 | 482,260 | 58,695 | 107,100 | 109,216 | 667,975 | 212,350 | 2,124,957 |

*Includes North Central Texas, Kansas, Oklahoma.

NOTE—Wortham, Corsicana-Powell and Mexia production included in North Central Texas.

# COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

## Summarized Review of Field Results

| State— | Completions This Week | Completions Last Week | Producers This Week | Producers Last Week | Gas Wells This Week | Gas Wells Last Week | Failures This Week | Failures Last Week | Initial Product'n This Week | Initial Product'n Last Week |
|---|---|---|---|---|---|---|---|---|---|---|
| Arkansas | 8 | 37 | 5 | 23 | 2 | 2 | 1 | 12 | 2,230 | 6,420 |
| California | 35 | 13 | 30 | 11 | .. | .. | 5 | 2 | 21,140 | 4,750 |
| Colorado | .. | 1 | .. | 1 | .. | .. | .. | .. | .... | 300 |
| Indiana | 1 | 2 | .. | 1 | .. | 1 | 1 | .. | .... | 15 |
| Illinois | 6 | 1 | 4 | 1 | 1 | .. | 1 | .. | 58 | 32 |
| Kansas | 44 | 38 | 37 | 21 | .. | 1 | 7 | 16 | 5,573 | 4,535 |
| Kentucky | 33 | 30 | 18 | 17 | 1 | 3 | 14 | 10 | 150 | 154 |
| Louisiana | .. | 16 | .. | 9 | .. | 1 | .. | 6 | .... | 530 |
| Montana | 7 | 6 | 7 | 4 | .. | 1 | .. | 1 | 3,265 | 930 |
| New Mexico | .. | 1 | .. | 1 | .. | .. | .. | .. | .... | 300 |
| New York | 9 | 9 | 9 | 9 | .. | .. | .. | .. | 19 | 23 |
| Ohio | 69 | 29 | 36 | 25 | 16 | 1 | 17 | 3 | 449 | 351 |
| Oklahoma | 97 | 98 | 65 | 54 | 6 | 11 | 26 | 33 | 37,231 | 25,619 |
| Pennsylvania | 75 | 73 | 68 | 62 | 3 | 6 | 4 | 5 | 174 | 875 |
| Tennessee | .. | .. | .. | .. | .. | .. | .. | .. | .... | .... |
| Texas | 78 | 119 | 49 | 76 | .. | 7 | 29 | 36 | 6,987 | 14,213 |
| Utah | 1 | .. | .. | .. | .. | .. | 1 | ... | .... | .... |
| West Virginia | 30 | 45 | 8 | 19 | 18 | 16 | 4 | 10 | 118 | 224 |
| Wyoming | 18 | 9 | 17 | 9 | .. | .. | 1 | .. | 3,030 | 735 |
| Totals | 511 | 527 | 353 | 343 | 47 | 50 | 111 | 134 | 80,424 | 60,006 |

## Allen Becomes Salesmanager Oklahoma Steel Castings Co.

Tulsa, Okla.—The Oklahoma Steel Castings Company of Tulsa of which E. H. Cornelius is president, announces the appointment of L. S. Allen as general salesmanager. Mr. Allen formerly was Mid-Continent representative of the United Alloy Steel Corporation of Canton, Ohio, and also was president of the B. & A. Specialty Company of Tulsa. The appointment is effective immedatelv.

Having been associated with the oil industry in the Mid-Continent field and elsewhere for a number of years, Mr. Allen enjoys a wide connection in the trade and is thoroughly conversant with the sales end of the steel business as well as being familiar with actual field and manufacturing conditions in the petroleum and allied industries in this territory. He will make Tulsa his headquarters but in his new work expects to spend the greater part of his time in personal contact with the customers of the Oklahoma Steel Castings Company throughout the company's trade area.

The Oklahoma Steel Castings Company also announces the appointment of W. P. Brown as superintendent of the foundry. Mr. Brown formerly was associated with the McIntosh-Hemphill Company of Pittsburgh and prior to that was manager of the Valley Mould and Iron Corporation of Sharpsville, Pa. His experience in the manufacture of steel has been extensive, covering a long period.

The Oklahoma Steel Castings Company has recently enlarged its plant here and with the installation of new machinery and equipment is in a better position than ever before to take care of the company's increasing business in the petroleum and other industries.

## Six Completions Add to Lockhart Production

Lockhart, Texas.—The daily production of the Lockhart field was greatly increased last week by the completion of six new producers for 2150 barrels flush. These wells are flowing from 1500 to 1600 feet.

Following are the new wells: Gulf Production Company, Nos. 17 and 18 Cardwell, 300 barrels each, 1550 feet; No. 28 Beaty, 300 barrels, 1500 feet; Witherspoon Oil Company, No. 10 Brewer, 400 barrels, 1500 feet; Eagle Drilling Company, No. 7 Riddle, 600 barrels, 1600 feet; Humble Oil & Refining Company, No. 10 Cardwell, 250 barrels, 1550 feet.

## Texas

### GULF COAST

| Company, Well, Location— | Initial Production Bbls. | Depth |
|---|---|---|
| **Spindletop—** | | |
| Lilian Oil Co.'s Terrel 1 | * | 875 |
| Sun Oil Co.'s Lone Star Crescent 49 | * | 810 |
| Telshaw et al's Trembly 1 | * | 1010 |
| **Saratoga—** | | |
| Fountain Pet. Co.'s Ogden 3 | * | 1995 |
| **Hull—** | | |
| Gulf Prod. Co.'s Phoenix Dev. Co. 56 | 75 | 3345 |
| **Batson—** | | |
| Ada Belle Oil Co.'s Paraffine 99 | 5 | 580 |
| **Goose Creek—** | | |
| Gulf Coast Oil Corp.'s Gaillard 27 | 600 | 3338 |
| **Pierce Junction—** | | |
| Gulf Prod. Co.'s E. R. Taylor et al 17 | * | 3158 |
| H. R. Cullen's Howe 6 | * | 3935 |
| **South Liberty—** | | |
| Sinclair Oil & Ref. Co.'s Condict Fee 5 | * | 3508 |
| **West Columbia—** | | |
| Geo. Hyde Prod. Co.'s McGregor 8 | * | 1170 |
| **Orange—** | | |
| American Nat. Oil Co.'s Winfree 1 | * | 3110 |
| Rycade Oil Corp.'s State "C" 1 | 800 | 4648 |
| Gulf Prod. Co.'s Hammond Consol. Co. 3 | * | 5418 |
| **Big Creek—** | | |
| Gulf Prod. Co.'s T. W. Davis 23 | 400 | 2910 |
| **Edgerly—** | | |
| Lake Charles Pet. Co.'s Fairchilds 2 | * | 2906 |
| **Evangeline—** | | |
| T. H. & T. Oil Co.'s Eunice Crowley 3 | 60 | 1725 |
| **Richland—** | | |
| Gulf Prod. Co.'s Mary Hillburn 5 | 52 | 2990 |
| **Powell—** | | |
| Humble Oil & Ref. Co.'s Davis 24 | 20 | 1633 |
| Davis 25 | 25 | 1635 |

## Arkansas

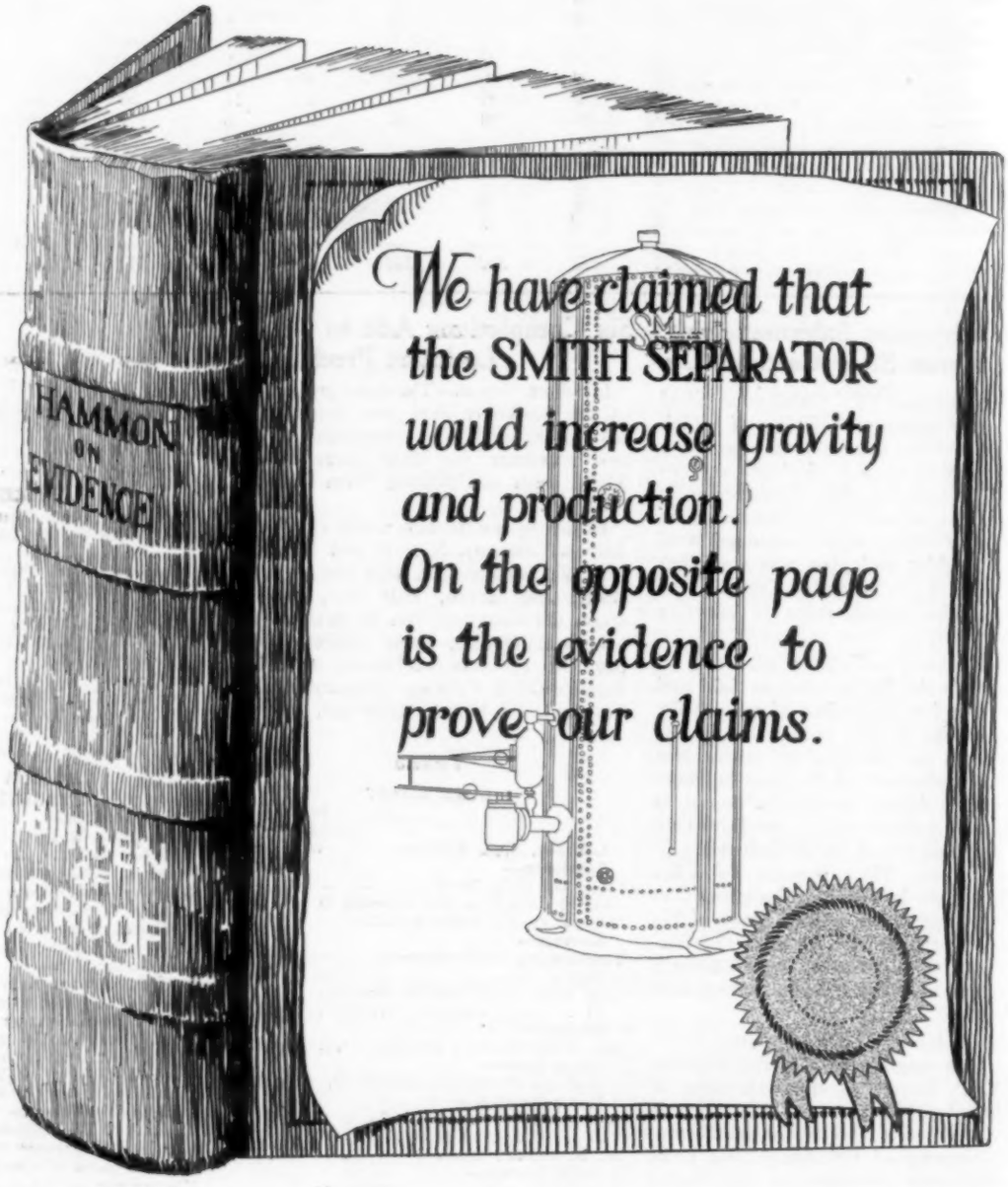
| Company, Well, Location— | Initial Production Bbls. | Depth |
|---|---|---|
| **Smackover Field, Ouachita County—** | | |
| Standard Oil Co. Reynolds 2, 27-15-15 | 50 | 2614 |
| **Smackover Field, Union County—** | | |
| J. W. Clark's Smith 3, 16-16-15 | 100 | 2624 |
| Gulf Ref. Co. M. Alphin 15, 2-16-15 | 100 | 2553 |
| Hickman et al Graves 10, 3-16-15 | 480 | 2562 |
| Hollifield et al Giller 12, 10-16-15 | * | 2770 |
| Keene & Woolf Murphy 4, 9-16-15 | ¶20 | 2718 |
| The Texas Co. Graves 8, 3-16-15 | 1500 | 2553 |
| Unity Pet. Corp. Roper 12, 3-16-15 | ¶20-750 | 2558 |
| Total, 8 wells | ¶40-2980 | |

## Eastern States

### PENNSYLVANIA

| | | |
|---|---|---|
| **Bradford Field—** | | |
| Elder, Gallup & Co. Lawton 22 | 4 | .... |
| Lawton 23 | 4 | .... |
| Towne & Melvin Franchot 6 | 4 | .... |
| Nesselson Bros. Welsh 1 | 4 | .... |
| L. M. & A. L. Lilly Middaugh 1 | 4 | .... |
| J. Minnich Kenyon 1 | 3 | .... |
| A. E. Yahn Burns 2 | 3 | .... |
| Zane Estate Mehan 1 | 3 | .... |
| R. C. Lloyd Ekas 1 | 3 | .... |
| Denwood Oil Co Garlock 1 | 3 | .... |
| Healy & Daly Bingham 500 tract 24 | 3 | .... |
| C. L. Wann & Co. Bingham 388 tract 48 | 3 | .... |
| Dodge & Hilliard Hilliard 16 | 3 | .... |
| Jane Zane Estate Quintruple 1 | 3 | .... |
| John Jackson Franchot 17 | 3 | .... |
| Thomas T. Fox Farnchot 14 | 3 | .... |
| J. H. Brahaney Jones & Co. 7 | 3 | .... |
| Brink & Brink Ringham 11 | 3 | .... |
| MacSweeney & Co. Lawton 87 | 3 | .... |
| Fitzgibbons & Wilson Bingham 381 tract 72 | 3 | .... |
| Associated Producers Co. Bingham 154 | 3 | .... |
| C. E. Potter Irvine 1 | 3 | .... |
| T. B. Wilson Borden 2 | 3 | .... |
| J. H. Kennedy Bingham 1 | 3 | .... |
| J. V. Golden Golden 22 | 3 | .... |
| Lewis Emery Rasey 18 | 3 | .... |
| Hazelwood Oil Co. Fee 47 | 2 | .... |
| Moses Sullivan Sullivan 1 | 2 | .... |
| Hungiville & Park Hungiville 2 | 2 | .... |
| Wilson & Co. Minor 8 | 2 | .... |
| C. B. Kervin Loop 1 | 2 | .... |

# EVIDENCE.




*We have claimed that the* SMITH SEPARATOR *would increase gravity and production.*
*On the opposite page is the evidence to prove our claims.*

CONTINENTAL OIL COMPANY

TULSA, OKLAHOMA

September 22, 1925

Smith Separator Company
624 South Cheyenne
Tulsa, Oklahoma

Gentlemen:

Recently we asked you to supply us with a Smith separator to handle the fifty barrel production from our W. P. Mackey #11 Tucker 2, located in section 18, Township 20 North, Range 12 East. We wish to compliment you on your service in setting this separator.

Before the installation of this separator, we were losing gas that was needed for lease operations, and were having trouble with our oil. We now have an adequate gas supply and are saving an average of seven barrels daily, which formerly was lost in B. S. and evaporation from the flow tank.

The above figures readily show the economy of efficient separation.

Very truly yours,
CONTINENTAL OIL COMPANY
BY
Production Superintendent

RT:LS

CHAS. W. GRIGGS

TULSA, OKLA.

Tulsa, Oklahoma,
February 21, 1924.

TO WHOM IT MAY CONCERN:

This certifies that I have charge of, as Production Superintendent, all the properties of P. A. Gillespie & Sons in the Osage Nation; that during the latter part of November 1923 we drilled in a Wilcox sand well on the NW¼ of Section 9, Twp 28 N, Range 12 E, Osage County, which well came in for a large producer, making about two million feet of gas and several hundred barrels of oil per day. The well soon developed water in large quantities and the oil and water did not separate after running into the storage tanks for a period of about three days. We erected a Smith Separator and the oil immediately as it came from the Smith Separator was perfectly separated and was pipe line oil. The well is still making several hundred barrels per day of oil and an equal or greater amount of water and it is pipe line oil as it comes from the Separator, and the pipe line company have never turned down a single tank from this well.

Before getting the Smith Separator this oil was flowed into a gun barrel 16 feet high and it would not separate in the gun barrel. I regard the investment in this Smith Separator as the best investment on the lease because without the use of this separator the oil could not be run as pipe line oil without treating it.

Respectfully submitted,
W. P. Gillespie

WM. C. ELLIOTT
OIL PRODUCING AND CONTRACTING
TULSA, OKLAHOMA

Sept. 21, 1925

Smith Separator Company
Tulsa, Okla.

Gentlemen:-

Your request that I address you a letter regarding my unbiased opinion as to the efficiency of your oil & gas Separator, I have this to say. First, that I find it 100% efficient. I have just recently had occasion to install one at a well of mine that is producing close to 3000 bbls of oil, 300 bbls of water and 3 million cu. ft. of gas, and as a result of its perfect mechanical power to separate fluid from gas, or gas from fluid as you may wish to state it, I find that it does the job exceptionally well and I have delivered to me from this well absolutely dry gas.

The gravity of this oil is unusually high, and previous to installing the Separator our gauge tickets showed 48 and 49 degrees corrected gravity, now they are showing 50 and 51 degrees or an increase of 2 degrees. Therefore I would say that it is not only a Separator but an Eliminator as well. Eliminating evaporation and raising the gravity of the oil, an all important factor in the producing of petroleum, therefore I consider your Separator a very essential and important part of the equipment necessary to the economical operation of oil properties.

Yours very truly
W. C. Elliott

DORCO PETROLEUM PRODUCTS

Danciger Oil & Refining Co.

A TEXAS ESTATE

Artesia, New Mexico,
Aug 26, 1925.

Smith Separator Company,
Chestnut & Smith Corporation Bldg.
Tulsa, Okla.

Attention - M. F. Medrano.

Gentlemen:

I wish to thank you for the information in your letter of August 24th.

We are very much pleased in knowing that we have a saving of 5% in volume for every point in gravity. One of the No. 2 Smith Separators which you shipped us is installed on our Eaneman No. 1 Sec. 4-18-28. Previous to the time we installed this separator, our production was going to the pipe line at 38.4 to 38.6, after we installed the separator we find that the gravity of this oil is going to the pipe line from 37.6 and sometimes being delivered at 38 gravity.

The New Mexico Pipe Line Company here tell us that this is the highest gravity oil being run from any lease in the field. I am sure that we are losing none of the light ends and are delivering oil to the Pipe Line Company at the same gravity that it comes from the well.

Wishing to be remembered to Mr. Kirby and with kindest regards, I beg to remain

Yours truly,
DANCIGER OIL & REFINING COMPANY,
BY M. F. Danciger

INTERNATIONAL PETROLEUM EXPOSITION

# RIG IRONS

With

## STANDARDIZED PARTS

*Immediate Shipment*

When the oil industry said: "STANDARDIZE," we got busy. Today, Western IDEAL Rig Irons coincide closely with the recommendations of the Purchasing Agents' Committee, as well as the standards of the American Petroleum Institute.

This naturally suggests that our other

## Oil Field Equipment

also shows close co-operation with the users. Here are some of the many lines we offer:

Sand Reels — Pump Reels
Sucker Rods — Counter Shafts
Smokestacks — Boiler Cleaners
Plate and Tank Work
Gray Iron Castings
Structural and Reinforcing Steel
Regular and Special Refinery Equipment

## TURNBUCKLE DERRICK

We shall soon make an announcement that will be of prime interest to all derrick users. Just tell us if you wish advanced, confidential information.

*Every Sale Is Backed by SERVICE*

**The Western Iron & Foundry Company**
WICHITA, KANSAS


| Company, Well, Location— | Initial Production Bbls. | Depth |
|---|---|---|
| J. H. Kennedy Gibson 1 | 2 | .... |
| H. M. & J. Jack Jack 1 | 2 | .... |
| Ostrander & Co. Lovell 1 | 2 | .... |
| H. B. Oil Co. Bingham 1 | 2 | .... |
| Hope Oil Co. Sill 1 | 2 | .... |
| C. L. Wann & Co. Bingham 370 tract 43 | 2 | .... |
| L. J. Kinsley & Co. Mantz 38 | 2 | .... |
| J. E. Ward Bingham 400 tract 17 | 2 | .... |
| C. P. Byron Estate Bingham 538 tract 29 | 2 | .... |
| White & Schofield Bingham 426 tract 1 | 2 | .... |
| Holding Oil Corp. Kennedy 20 | 2 | .... |
| W. C. Kennedy Co. Kennedy 48 | 2 | .... |
| **Center-Middle Field—** | | |
| B. W. Logan Knupp 2 | 2 | .... |
| Knupp 3 | 2 | .... |
| J. P. Eaton & Co. Brown 4 | 2 | .... |
| Helm & Siggins Beaver 9 | 4 | .... |
| F. J. Moser Lot 3767 tract 26 | 2 | .... |
| Bright Bros. Streich 1 | 2 | .... |
| F. H. Trax Rogers 1 | 2 | .... |
| W. M. O'Neil Rogers 1 | 2 | .... |
| F. E. Chapman Lacy 1 | 2 | .... |
| **Venango County—** | | |
| G. N. Hess & Co. Ziegler 4 | 2 | .... |
| Berchner & Co. Berchner 1 | 2 | .... |
| Midland Oil Co. Stevenson 42 | 2 | .... |
| Rhodes & Breene Paul & Simmons 40 | 2 | .... |
| L. J. Kirkwood & Co. Murphy 19 | 2 | .... |
| Farnklin Trust Co. Blair 43 | 2 | .... |
| J. E. & J. F. McLaughlin Furnace tract 55 | 2 | .... |
| F. W. Mitchell Estate Mitchell 122 | 2 | .... |
| **Calrion County—** | | |
| W. W. Wilson Wilson 1 | ¶¼ | .... |
| Wallie Oil & Gas Co. Porter 1 | * | .... |
| Alum Rock Gas Co. Beichner 3 | 3 | .... |
| Coulter Oil & Gas Co. Coulter 2 | 2 | .... |
| Parker Drilling Co. Henry 1 | 2 | .... |
| V. Glass Wentling 3 | 2 | .... |
| **Butler County—** | | |
| Morrison, Sherwin & Co. Togert 1 | ¶1¼ | .... |
| Mrs. A. E. Butler House 1 | 3 | .... |
| P. C. Bell & Co. Coffin 1 | 2 | .... |
| Sherwin & Campbell Cumberland 3 | 2 | .... |
| Texas Oil Co. Gortz 1 | * | .... |
| Tarr & Co. Crawford 1 | * | .... |
| **Warren Field—** | | |
| Milton Beaty Morrison Run 1 | 5 | .... |
| **Allegheny County—** | | |
| Walley & Hahn King 1 | ¶1½ | .... |
| **Beaver County—** | | |
| Bruin Oil & Gas Co. Bluem 1 | * | .... |

### NEW YORK

| | | |
|---|---|---|
| **Allegany County—** | | |
| Knights Creek Oil Co. Norton & Co. 2 | 2 | .... |
| William Duke & Co. Bledsoe & Co. 1 | | .... |
| Crandall & Wightman Crandall | 3 | .... |
| Hungeford & Co. Ferrington 1 | 2 | .... |
| Empire & Breckenridge Fee 1 | 2 | .... |
| R. J. Dermitt Dermitt 4 | 2 | .... |
| Birtcil & Co. Birtcil 1 | 2 | .... |
| Neal K. Wilson Childs 1 | 2 | .... |
| Perry & Root Perry 1 | 2 | .... |

### WEST VIRGINIA

| | | |
|---|---|---|
| **Kanawha County—** | | |
| United Fuel Gas Co. V. Cobb 1 | ¶2¼ | .... |
| Ohio Fuel Oil Co. O. A. Vesey lot 1 | ¶¼ | .... |
| Veasey Fuel Co. Veasey 1 | ¶½ | .... |
| Mullins Gas Co. Veasey 1 | ¶1 | .... |
| Earl Cameron Veasey 1 | ¶1 | .... |
| C. S. Halstead John Nugent 1 | ¶½ | .... |
| Fincastle Oil & Gas Co. S. W. Van horn 1 | ¶¼ | .... |
| Hezekiah Ferrell 1 | ¶1½ | .... |
| **Ritchie County—** | | |
| South Penn Oil Co. George M. Haught 1 | 5 | .... |
| David French & Co. Alvey Payne 1 | ¶1½ | .... |
| Hope Construction & Refg. Co. John Lanager 1 | 2 | .... |
| H. L. Lambert John Paynter 1 | ¶1 | .... |
| **Putnam County—** | | |
| Grant Gas Co. Harvey Ashworth 1 | ¶1½ | .... |
| John S. Burdette 1 | ¶1¼ | .... |
| Ohio Fuel Oil Co. W. H. Eggleton 2 | * | .... |
| **Clay County—** | | |
| Ohio Fuel Oil Co. J. B. Casto 270 acres 2 | 50 | .... |
| Virginia Gasoline & Oil Co. J. B. Casto 260 acres 4 | 50 | .... |
| **Wetzel County—** | | |
| Hope Natural Gas Co. Clarence E. Yeater 1 | 5 | .... |
| Carnegie Natural Gas Co. A. G. Mace 1 | ¶¼ | .... |
| **Cabell County—** | | |
| Aetna Oil & Gas Co. H. L. McCoy 1 | ¶½ | .... |
| Harshbarger Oil & Gas Co. R. C. Kilgore 7 | ¶2 | .... |
| **Jackson County—** | | |
| United Fuel Gas Co. J. W. Kelley 2 | 3 | .... |
| **Calhoun County—** | | |
| Hope Construction & Refg. Co. Robert Bell 1 | 2 | .... |
| **Tyler County—** | | |
| Sugar Camp Oil Co. Ada V. Parker 3 | 1 | .... |
| **Lincoln County—** | | |
| Ray & Osborne F. E. May 2 | ¶1¼ | .... |
| **Dodridge County—** | | |
| Hope Natural Gas Co. Grace Nicholson 1 | * | .... |
| **Harrison County—** | | |
| Benjamine Bolman G. W. Kester 1 | ¶2½ | .... |
| **Boone County—** | | |
| Owens Bottle Machine Co. Coal River Mining Co. 24 | ¶1½ | .... |
| **Marion County—** | | |
| Clifton Oil & Gas Co. Belle Snider 1 | * | .... |
| **Pelasants County—** | | |
| Bottom Oil Co. Thornton Wagner 3 | * | .... |

### KENTUCKY

| | | |
|---|---|---|
| **Barren County—** | | |
| Smith & Son Nichols 8 | 8 | .... |
| Star Oil Co. Ritchie 37 | 7 | 587 |
| Free 6 | 5 | .... |
| Fred Moore Burton 5 | 8 | 540 |
| Burton 6 | 5 | 559 |
| Lew J. Emery Sons Co. Preston 2 | 2 | .... |
| Kopel Oil Co. H. Myers 1 | 15 | 498 |
| Esslinger Oil Co. Jones 7 | 2 | .... |
| Wood Oil Co. Stone Quarry tract 1 | * | 600 |
| **Warren County—** | | |
| Onsel-Hanrahan Oil Co. Ora S. Davenport 4 | 48 | 550 |
| H. V. Taylor Smith 16 | 8 | 480 |
| Wood Oil Co. C. G. Davenport 22 | 2 | 1043 |
| Evans Oil Co. McGinnis 3 | * | 650 |
| **Allen County—** | | |
| Keys Oil Corp. Beam 9 | 3 | 345 |
| Work & Son A. Lyle 12 | * | 300 |
| C. Deardorff S. & K. Thatton 3 | * | 485 |
| McMullen & Morgan W. F. Johnson 13 | 2 | 342 |
| **Owensboro District—** | | |
| White & Micklin O. T. Burdette 5 | 15 | .... |
| Pennsylvania-Indiana Oil Co. Abe Howe 7 | 5 | .... |
| C. E. Daugherty Ira Crowe 1 | * | 754 |
| **Johnson-Magoffin Counties—** | | |
| Short Fork Oil Co. J. M. Frazier 2 | 5 | .... |
| Carter Oil Co. William Salyer 3 | 5 | .... |
| Fych Oil & Gas Co. Licking River tract 2 | ¶2 | .... |
| **Cumberland-Monroe Counties—** | | |
| Vedder Oil Co. Tompkins heirs 5 | * | 525 |
| Freeman & McMonnare T. T. Bow 5 | * | .... |
| Kanawha Oil Co. L. I. Coop 3 | * | 1071 |
| **Greenup County—** | | |
| W. H. Young Near Grayson 1 | * | .... |
| Caudill & Adams Robertson 1 | * | .... |
| Tom Hays J. C. Roberts 1 | * | .... |
| **Wayne County—** | | |
| D. C. Atkins Burnett heirs 12 | * | .... |
| Rex Carpenter Costello 1 | * | .... |
| **Lee-Owsley Counties—** | | |
| Hupp, Duff & Co. Widow Porter 5 | 5 | .... |
| **Lawrence-Johnson Counties—** | | |
| Carter Oil Co. Sparks 1 | * | .... |

### SOUTHEASTERN OHIO

| | | |
|---|---|---|
| **Washington County—** | | |
| Goldfish & Co. L. A. Lubrand 1 | * | 1525 |
| Thomas Orndorf & Co. Ella Waddaker 1 | ¶¼ | .... |
| Barrett & Co. Henry Woodburn 1 | ¶½ | 1213 |
| White Oil Co. Weckbacher 1 | * | .... |

| Company, Well, Location— | Initial Production Bbls. | Depth |
|---|---|---|
| E. L. Yager Trustee Retta J. Johnson 2 | 7 | .... |
| Crescent Producing Co. Plumer heirs 35 | * | .... |
| Burke Bros. Louis T. Garber 1 | 4 | 500 |
| Cliff Oil & Gas Co. J. M. Moore 1 | 10 | .... |
| Edward Becker & Co. Phil Bauersock 1 | * | .... |
| **Columbiana County—** | | |
| F. H. Norris & Co. George W. Shirley 4 | 2 | .... |
| Ceraopolis Savings & Trust Co. Al. Stoffer 17 | 2 | .... |
| W. H. Baker C. L. Johnstone 1 | * | .... |
| **Monroe County—** | | |
| Rich Fork Oil Co. Roy Cronin 5 | 45 | .... |
| Antioch Producing Co. John Adams 2 | 3 | .... |
| **Morgan County—** | | |
| Swingle Oil & Gas Co. H. D. Fletcher 3 | ¶½ | .... |
| Arkansas Oil & Gas Co. S. L. Stoneburner 1 | ¶1 | .... |
| **Noble County—** | | |
| Ohio Oil Co. George Hupp 10 | 7 | .... |

## CENTRAL OHIO

| | | |
|---|---|---|
| **Licking County—** | | |
| E. J. Edmonds & Co. Mrs. Ella Forry 2 | 8 | .... |
| I. J. Denbow & Co. Besse Warrington 1 | ¶2 | .... |
| Carey Weiss 5 | 2 | .... |
| F. M. Riggs & Co. Jacob Weiss 5 | 3 | .... |
| The Pure Oil Co Susan A. Minor 2 | 45 | 3014 |
| Jones, Reese & Co. James McKinney 21 | 3 | .... |
| Roy B. Decker & Co. Mary E. Weiss 1 | 2 | .... |
| **Ashland County—** | | |
| East Ohio Gas Co. H. Bookman 2 | ¶1 | .... |
| Logan Gas Co. P. C. Cowan 2 | ¶1½ | .... |
| John Brown 1 | * | .... |
| Martha Bowen 2 | * | .... |
| **Athens County—** | | |
| Muskingum Gas Co. G. W. Connell 1 | * | 1109 |
| Watkins Oil & Gas Co. Mary E. Earhart 3 | 7 | .... |
| The Pure Oil Co. Laura Garnel 3 | ¶1½ | .... |
| Carter Oil Co. J. R Murphy 1 | * | .... |
| Logan Gas Co. M. Kinnon 5 | * | .... |
| Cark & Co. W. E. Baker 1 | * | .... |
| Snodgrass & Co. F. E. Clark 1 | * | 1810 |
| **Hocking County—** | | |
| Jack Walters & Co. Hocking Fuel Co. 2 | 25 | .... |
| Wallsmith & Kinstle Laura A. Tilten 1 | * | .... |
| Stewart, McCarton & Co. Mary L. Hill 1 | * | 3660 |
| George H. Ketch & Co. Brashart heirs 1 | * | .... |
| **Knox County—** | | |
| Arkansas Fuel Oil Co. L. V. Dugan 12 | 5 | .... |
| W. T. Carson W. T. Carson 2 | 2 | .... |
| W. T. Carson 3 | 2 | .... |
| **Medina County—** | | |
| E. P. Edson Son Co. Carl G. Packard 22 | 3 | .... |
| Ohio Fuel Gas Co. George Sloskoff 1 | ¶2 | .... |
| Hulse & Kundtz James Mapes 1 | ¶¼ | .... |
| **Lorain County—** | | |
| Ohio Fuel Gas Co. I. F. Ring 1 | ¶4½ | .... |
| G. M. Hance 1 | ¶4½ | .... |
| **Wayne County—** | | |
| William Hawk & Co. Jay Yoder 1 | ¶½ | .... |
| **Cuyhoga County—** | | |
| East Ohio Gas Co. J. D. Waggner 1 | ¶¼ | .... |
| **Cochoton County—** | | |
| Logan Gas Co. J. W. Frazee 2 | ¶¼ | .... |
| **Ross County—** | | |
| The Wering Oil Co. Amos Brown 1 | * | 3200 |

## NORTHWESTERN OHIO

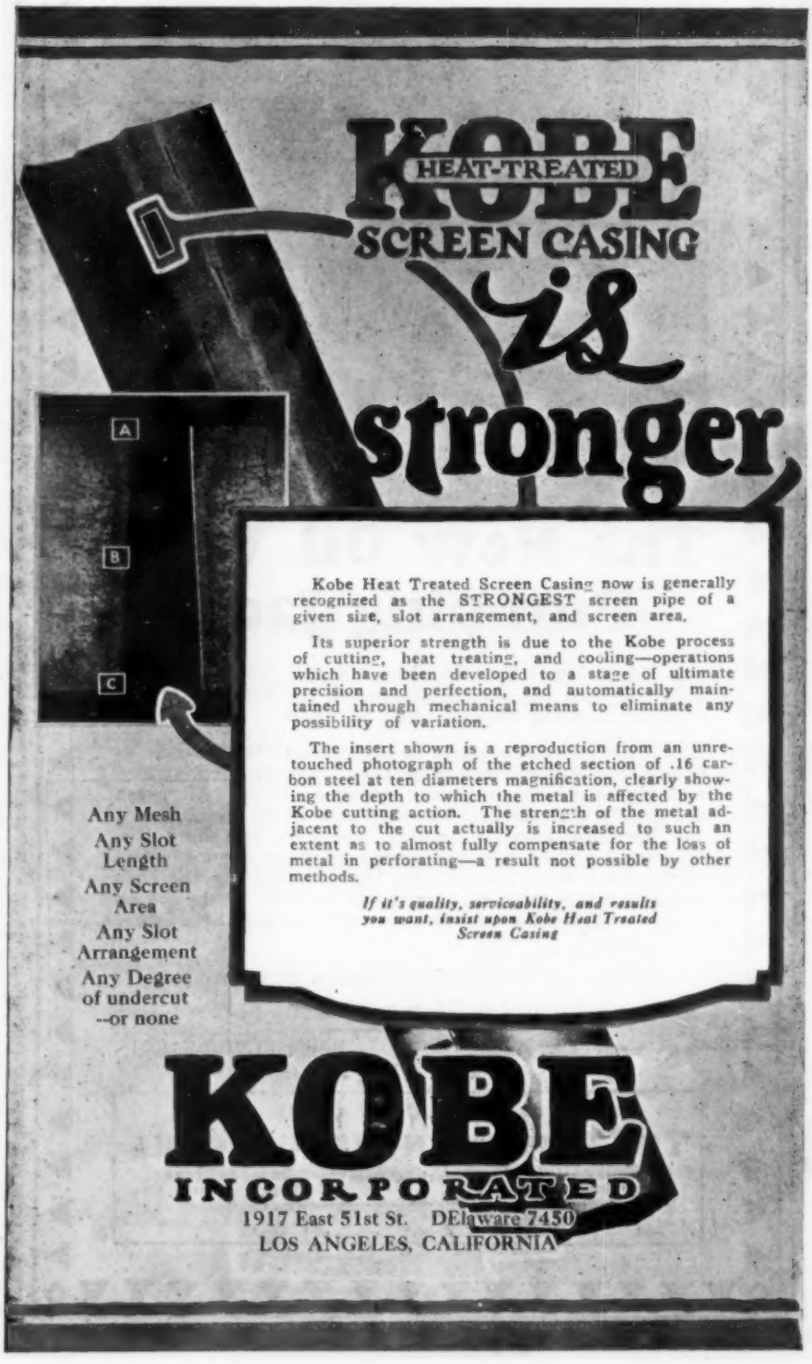
| | | |
|---|---|---|
| **Wood County—** | | |
| Waterville Gas & Oil Co. Gust Shaller 9 | 20 | 1313 |
| Ohio Oil Co. Jonas Meyer 21 | 6 | 1646 |
| E. H. Monasmith 18 | 12 | 1561 |
| C. A. Browning Browning 34 | 3 | 1400 |
| John E. Welton & Co. Whitson-Swartz 1 | * | 1553 |
| **Hancock County—** | | |
| B. Porter & Co. Hank Deeds 19 | 25 | 1415 |
| J. H. Haley 22 | 20 | 1395 |
| Star & Clark Alice Stauffer 7 | 25 | 1387 |
| Ohio Oil Co. P. C. Redfern 15 | 10 | 1469 |
| **Mercer County—** | | |
| M. P. Colt W. M. Miller 10 | 20 | 1163 |
| W. M. Miller 11 | 20 | 1176 |
| **Auglaise County—** | | |
| Murphy & Lang J. H. Gochenour 17 | 12 | 1220 |
| Crystal Oil Co. Joseph Woehrmyer 3 | 25 | 1270 |
| **Shelby County—** | | |
| Kelley Bros. Turtle Creek tract 1 | ¶1 | 1276 |
| **Hardin County—** | | |
| Ulrich, Sanford & Co. A. Zimmerman 4 | 30 | 1501 |
| **Paulding County—** | | |
| George S. Lacknett & Co. Nancy Bailey 1 | 8 | 1449 |
| **Sandusky County—** | | |
| Van Vleck-Stowe Oil Co. John Kille 33 | 1 | 1299 |

## INDIANA

| | | |
|---|---|---|
| **Sullivan County—** | | |
| Wm. C. Kennedy Co. J. B. Kaufman 4 | * | 812 |

## ILLINOIS

| | | |
|---|---|---|
| **Cark County—** | | |
| John T Smith Co. T. Ramsey 3 | 35 | 1580 |
| R. E. Moffat & Co. Briscoe heirs 5 | 2 | 400 |
| **Crawford County—** | | |
| Henry C. Lloyd & Co. Mary Duncan 5 | 20 | 959 |
| National Refining Co. Dickinson 16 | 1 | 971 |
| **Wabash County—** | | |
| Adams Corner Oil Co. Madden 1 | ¶1 | 1187 |
| Weidner Oil Co. Dorney-Holson 4 | * | 1561 |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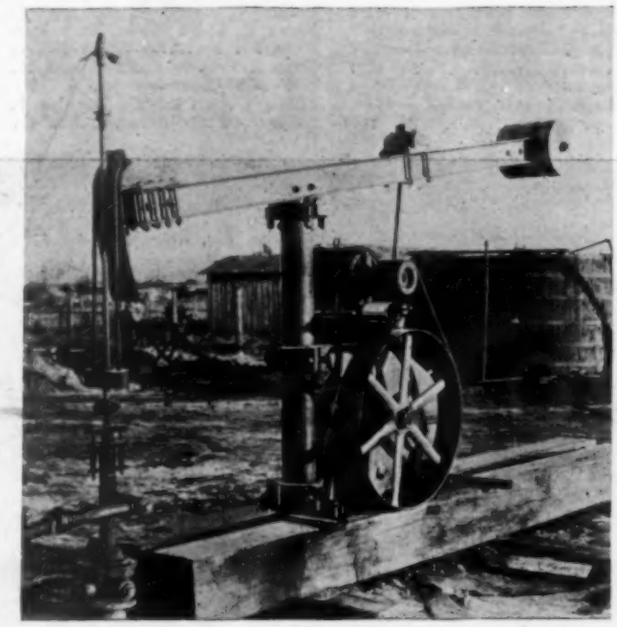

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## Oklahoma

| Company, Well, Location— | Initial Production Bbls. | Depth |
|---|---|---|
| **Kay County—** | | |
| Comar Oil Co. Harwell 5 | 81 | 2090 |
| Biddle 1 | 5225 | 2373 |
| Marland, Thomas 1-A | 6760 | 4058 |
| Wentz Oil Corp., Mahoney 6 | 1829 | 4262 |
| Cosden & Marland, School land 6-A | 2526 | 4276 |
| School land 7-A | 2077 | 4272 |
| White Eagle, Campbell 1 | * | 2522 |
| **Osage County—** | | |
| Winona Oil Co. No. 3 | 100 | 1552 |
| Owen Osage No. 345 | ¶2 | 727 |
| Knupp & Phillips No. 3 | 22 | 1547 |
| Lewis Oil Co. No. 5 | 145 | 2499 |
| Texas Co., No. 2 | 20 | 2505 |
| I. T. I. O. Co. No. 332 | ¶3 | 1747 |
| Pure Oil Co. No. 3 | 20 | 511 |
| Foster & Norwood No. 6 | 20 | 2148 |
| Texas Co. No. 3 | 20 | 2145 |
| Continental & Prairie No. 5 | 100 | 2518 |
| Peters Pet. Co. No. 5 | 35 | 2189 |
| Barnsdall Oil Co. No. 9 | 100 | 2185 |
| Meridian Pet. Co. No. 6 | 100 | 2319 |
| Skelley Oil Co. No. 5 | 50 | 2354 |
| Barnsdall Oil Co. No. 7 | 30 | 2310 |
| Mid-Kansas O. & G. Co. No. 2 | 75 | 2466 |
| Tidal Osage No. 2 | 75 | 2438 |
| Breene et al No. 1 | 30 | 2336 |
| Titus et al No. 4 | 40 | 1359 |
| Barnsdall Oil Co. No. 15 | 30 | 2055 |
| Gillespie No. 27 | 10 | 2173 |
| Continental Oil & Gas Co. No. 1 | 300 | 2034 |
| Edith Oil Co. No. 10 | * | 970 |
| Peters Pet. Co. No. 3 | * | 1636 |
| Kewanee Oil Co. No 23 | * | 2050 |
| **Garfield County—** | | |
| Sinclair O. & G. Co. Walker 20 | 1746 | 4400 |
| Sinclair, Ed, Kisner 5 | 85 | 2194 |
| Roxana Pet. Corp. Schroeder 2-W | 10,000 | 4320 |
| Sinclair, Hartley 18 | 25 | 2320 |
| **Lincoln County—** | | |
| Texas Co., Tipton 3 | 425 | 3380 |
| Twin State Oil Co., Big Water 4 | 648 | 3372 |
| Magnolia Pet. Co. Sukovaty 4-A | 450 | 3425 |
| Sukovaty 6-A | 850 | 3417 |
| **Creek County—** | | |
| Shaffer O. & R. Co. Ross 2 | 20 | 2894 |
| Gled Oil Co. Lewis 3 | 50 | 2911 |
| Atlantic Pet. Co. S. Fry 3 | 18 | 2317 |
| C. G. Tibbens, Bear head 4 | 45 | 2452 |
| Gray Oil Co. Leader 1 | ¶3½ | 2197 |
| T. P. C. & O. Co. Harjocke 2 | 15 | 2480 |
| Shaffer O. & R. Co. Strip 1 | 10 | 3388 |
| Phillips Pet. Co. Bradbury 5 | 45 | 3049 |
| Burton & Holmes Morgan 3 | * | 2465 |
| Lima O. & G. Co. Leshley 1 | * | 3102 |
| J. H. Wright, Talkaney 9 | * | 2436 |
| R. J. Allison Jackson 1 | * | 2450 |
| **Okmulgee County—** | | |
| Sheridan Oil Co. Thomas 1 | 70 | 2748 |
| Paraffine Oil Co. Ross 6 | 15 | 1999 |
| Iron Mountain Gonseth 1 | ¶3 | 2191 |
| Magnolia Pet. Co. Tiger 1-A | 10 | 1917 |
| Continental Oil Co. Grayson 2 | 25 | 1933 |
| Schoenfeldt et al Hawkins 4 | 20 | 1575 |
| E. J. Lambert C. Johnson | ¶¼ | 773 |
| Devonian Oil Co. Wisner 6 | 960 | 2675 |
| Papoose Oil Co. L. Osborn 24 | 10 | 2234 |
| Joe Gardner et al, Wright 1 | * | 2794 |
| E. P. Jones C. Warden 3 | * | 3255 |
| Independent L. Ross 8 | * | .... |
| Hennessey M. Ashbury 1 | * | 1857 |
| Aeta, B. Peters 1 | * | 2387 |
| Laurel O. & G. Co. C. Lewis 6 | * | 2245 |
| Texas Co., C. Lewis 17 | * | 2485 |
| **Seminole County—** | | |
| Phillips Pet. Co. L. Fields 1 | 260 | 3478 |
| Independent, Carter 1 | 60 | 3299 |
| Mid-Cont. Pet. Corp. Yarhola 5-W | * | 3525 |
| **Okfuskee County—** | | |
| Windsor & Indep. Guy 1 | 212 | 2859 |
| Burk Greis et al Sawyer 1 | * | 3367 |
| Prairie O. & G. Co. Davis | * | 3466 |
| **Hughes County—** | | |
| Grayson & Houston Lowe 1 | 17 | 3268 |
| Sinclair, Diamond 1 | 395 | 3447 |
| Dixie Oil Co., Diamond 2 | 400 | 2799 |
| J. W. McCullough Jefferson 4 | * | .... |
| **Grady County—** | | |
| Stogner et al Edmonson 1 | ¶10 | 1400 |

| Company, Well. Location— | Initial Production Bbls. | Depth |
|---|---|---|
| **Tulsa County—** | | |
| Winemiller et al Hooie 21 | * | 2425 |
| Sand Springs Home Fee 1 | 16½ | 1883 |
| London 1 | 80 | 2180 |
| Shaffer O. & R. Co. Bruner 5 | 35 | 2007 |
| Superior Oil Co., Cowles 3 | * | 2407 |
| **Commanche County—** | | |
| Magnolia Pet. Co. Price 1 | 75 | 2018 |
| **Stephens County—** | | |
| Pauline Clark & Cowden, Garza 1. | 90 | 1495 |
| Ka Wye Pet. Co. Brown 5 | 112 | 2280 |
| Owl Oil Co. Leonard 1 | 40 | 1840 |
| Crump & Beard, Eakes 3-A | 15 | 2019 |
| **Jefferson County—** | | |
| Humble & Hambro Indian 3 | 90 | 1236 |
| **Carter County——** | | |
| Humble O. & R. Co. Hewitt-Walker 17 | 100 | 2457 |
| Simpson & Fell, Walker 3 | * | 2815 |
| Amerada, Morris 1-A | * | 1665 |
| Fish 3-A | * | 1140 |
| Fae 5 | * | 1536 |
| **Wagner County—** | | |
| A. G. Hazlett Kernall 1 | * | .... |
| O. A. Sewell, C. Burgess 1 | * | 700 |

## Kansas

| | | |
|---|---|---|
| **Barton County—** | | |
| Cheyenne Oil Co., Sooy 1 | * | 3525 |
| **Butler County—** | | |
| Connell et al, Ritchman 1 | * | 3070 |
| Marland & Connell, Gruber 1 | 75 | 2503 |
| Hoyt et al, Harder 2 | * | 2846 |
| J. K. Wilson et al, McMahan 1 | * | 2775 |
| Hinkle et al, Bitler 1 | 30 | 2717 |
| White & Huff, Shambaugh 1 | 200 | 2570 |
| **Coffey County—** | | |
| Terrian & Belliere, Turner 1 | * | 1748 |
| **Cowley County—** | | |
| S. A. Murphy et al, Grant 1 | * | 3537 |
| T. B. Slick, Carson 5 | 262 | 2611 |
| J. A. Hull, Detmer 9 | 50 | 2356 |
| Phillips & Marland, Bates 2 | 17 | 3262 |
| Nelson 8 | 1240 | 3229 |
| Snyder 1 | 800 | 3288 |
| Gypsy Oil Co. Hunt 1 | 464 | 3227 |
| Phillips & Marland, Caldwell 4 | 40 | 3301 |
| Caldwell 8 | 50 | 3295 |
| **Elk County—** | | |
| Elk Pet. Co. Denton 3 | 25 | 1059 |
| Glaiman & King, Crowthers 1 | * | 2666 |
| **Greenwood County—** | | |
| Davis, Hazlitt et al, De Malorie 7. | 700 | 2117 |
| Sinclair O. & G. Co., Browning 26 | 500 | 2346 |
| Empire G. & F. Co., Greenwood 1. | 125 | 2140 |
| Simmons et al, Harris 1 | 100 | 2077 |
| Phillips Pet. Co., Pees 2 | 10 | 2005 |
| Pryor, Lockhart et al, Coffman 1 | 125 | 2107 |
| York State Oil Co., O'Neil 8 | * | .... |
| Sinclair, Burk 2 | * | .... |
| Greenland Oil Co., "C" Shambaugh 2 | * | .... |
| "C" Shambaugh 3 | * | .... |
| "B" Shambaugh 5 | 200 | 2503 |
| Skelley Oil Co., Shambaugh 6 | * | .... |
| Pryor & Lockhart, Morris 1 | * | 2648 |
| White Eagle & McGinnis, Morris 1 | 150 | 2562 |
| Phillips Pet. Co. & Skelley, Margaret 1 | 75 | 2563 |
| Derby & Simmons, Teter 2 | 30 | 2384 |
| Roth & Mission, Thrall 2 | 40 | 2253 |
| Mid-Kansas O. & G. Co., Martindale 1 | 100 | 2355 |
| White Eagle & McGinnis, Phillips 1 | * | 1990 |
| Ark. Fuel Oil Co., Souder 1 | * | 1710 |
| Christy et al, Carnish 2 | 15 | 1617 |
| R. T. Perkins et al, Garrison 1 | * | 2073 |
| **McPherson County—** | | |
| Krown & Krown, Linn 1 | * | .... |
| **Sumner County—** | | |
| Marland Oil Co., Theissen 1 | 95 | 3442 |
| Phillips Pet. Co., Mareau 1 | 55 | 3480 |

## Mountain States

### WYOMING

| | | |
|---|---|---|
| Texas Prod. Co.'s No. 7-A, SE¼ 19-40-79 | 100 | 2693 |
| No. 20-A, 32-40-78 | 60 | 2760 |
| Wyoming Associated Oil Co.'s No. 3-A, SW¼ 30-40-78 | 75 | 2007 |
| No. 4-A, NW¼ 1-39-79 | 60 | 1750 |
| No. 31-L, SW¼ 25-40-79 | 175 | 2486 |
| No. 3, SE¼ 35-40-79 | 100 | 1248 |
| No. 4-A, SW¼ 30-40-78 | 100 | 1918 |


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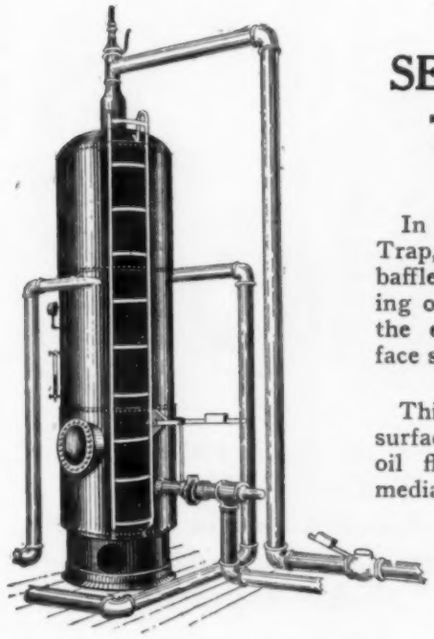

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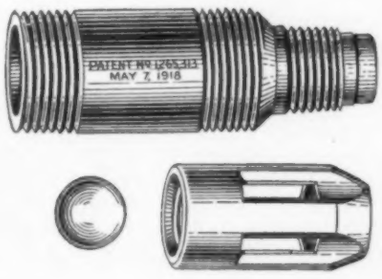


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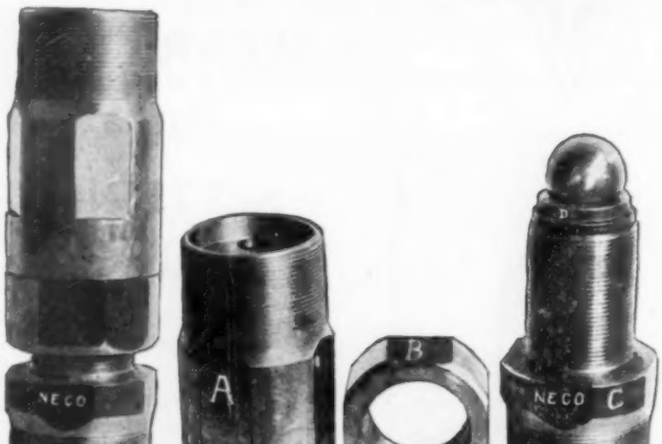


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## All Pioneer Oil Well Shooters


| Company, Well, Location— | Initial Production Bbls. | Depth |
|---|---|---|
| No. 36-L, SE¼ 26-40-79 | 470 | 2442 |
| Midwest Oil Co.'s No. 1-L, NE¼ 35-40-79 | 200 | 2459 |
| No. 13-L, SW¼ 23-40-79 | 950 | 2486 |
| No. 12-AS, SW¼ 19-40-79 | 100 | 2403 |
| Midwest Oil-Wyoming Associated No. 6-A, SE¼ 36-40-79 | 100 | 2469 |
| Mountain & Gulf Oil Co.'s No. 33-A, NE¼ 13-40-79 | 90 | 2162 |
| Utah Oil Ref. Co.'s No. 15-A, NW¼ 30-40-78 | 50 | 2096 |
| Salt Creek Consolidated Oil Co.'s No. 12-A, SE¼ 31-40-78 | 100 | 2452 |
| **Poison Spider—** | | |
| Fargo-Western Oil Co.'s No. 26, 3-33-83 | 200 | 2450 |
| **Lost Soldier—** | | |
| Prairie Oil & Gas Co.'s No. 61-A, 11-26-90 | 100 | 2014 |
| **Sherard Dome—** | | |
| Ohio Oil Co.'s No. 2, 19-25-89 | * | 735 |

### UTAH

| | | |
|---|---|---|
| **Clay Basin—** | | |
| Producers & Refiner Corp. No. 1.. | * | 4000 |

### MONTANA

| | | |
|---|---|---|
| **Kevin-Sunburst—** | | |
| Ohio Oil Co.'s No. 2-R, SW¼ 14-35-2 | 25 | 1450 |
| Queen City Oil Co.'s No. 18-M, 4-24-2 | 75 | 1475 |
| Dakota-Montana-Emmons No. 3, SW¼ 31-35-1 | 150 | 1500 |
| California Co.'s No. 3, SE¼ 28-35-2 | 25 | .... |
| Fulton Oil Co.'s No. 4-B, NW¼ 31-35-1 | 500 | 1485 |
| Queen City Oil Co.'s No. 19-M, NW¼ 4-34-2 | 2300 | 1465 |
| Hibbing-Sunburst Oil Co.'s No. 3-F | 190 | .... |

### California

| | | |
|---|---|---|
| **Athens-Rosemrans—** | | |
| Barnsdall Oil Corp. Rosecrans 1 (wo) | 800 | 4716 |
| Union Oil Co. Chandler 2 (wo) | 2740 | 4578 |
| Marine Corp. No. 41 | 700 | 4580 |
| **Inglewood-Baldwin Hills—** | | |
| Pacific Oil Co. Baldwin 16 | 1600 | 2200 |
| 18 | 875 | 2466 |
| Associated Oil Co. Vickers 19 | 1578 | 2803 |
| Standard Oil Co.'s Los Angeles Inv. 1-31 | 1500 | 2322 |
| Los Angeles Inv. 1-32 | 280 | 2022 |
| Vickers 19 | 1000 | 2603 |
| Vickers 18 | 350 | 2664 |
| Petroleum Securities Co. Lloyd 6 | * | 3155 |
| **Dominguez—** | | |
| Union Oil Co. Callendar 12 | 412 | 4671 |
| **Torrance—** | | |
| George F. Getty No. 26 | 75 | 3430 |
| C. C. M. O. Co. Del Amo 33 | 340 | 3720 |
| California Pet. Corp. Gish 2 | 25 | 3600 |
| Shell Co. of Calif. Redondo 5 | 70 | 3600 |
| Standard Oil Co. Ellingwood 2 | 15 | 4750 |
| **Long Beach Field—** | | |
| Falling's Finney 1 | 840 | 4535 |
| Shell Co. Dolly 1 | 28 | 4300 |
| **Huntington Beach—** | | |
| Standard Oil Co. B-27 | 60 | 2982 |
| Thomson 6 | 65 | 3650 |
| General Pet. Corp. Dabney 1 (wo) | 10 | 3746 |
| California Pet. Corp. Brown 6 | 22 | 3725 |
| St. Helens Pet. Corp. Monterey 5, (wo) | 1920 | 3461 |
| **Hawthorne—** | | |
| Midway Gas Co.'s Lusinger 1 | * | 3550 |
| **Midway District—** | | |
| Federal Drilling Co. No. 2 | * | 4944 |
| No. 3 | * | 5017 |
| Gilmore Oil Co. 27-31-22 | 35 | 1585 |
| Honolulu Cons. Oil Co. No. 23 | 1100 | 3134 |
| North American Cons. No. 28 | 1500 | 4550 |
| No. 24 | 550 | 4200 |
| **Sunset District—** | | |
| Taft Well Drilling Co. Calivada 1 (wo) | 400 | 3652 |
| G. F. Fetty Leutholtz 1 | * | .... |
| **Ventura County—** | | |
| General Pet. Corp. Barnard 4-A | 1600 | 4734 |
| Associated Oil Co. Lloyd 17 | 630 | 5201 |

# PERMITS GRANTED FOR NEW WELLS

## Weekly Comparison of New Wells

**Following is a condensed table giving a comparison of permits or locations made for new wells in Kansas, Oklahoma, Arkansas, Louisiana, Texas and California:**

| | Number of Wells for Week Ending | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | June 12 | June 19 | June 26 | July 3 | July 10 | July 17 | July 24 | July 31 | Aug. 7 | Aug. 14 | Aug. 21 | Aug. 28 | Sept. 4 | Sept. 11 | Sept. 18 | Sept. 25 |
| Kansas . | 40 | 19 | 29 | 50 | 39 | 31 | 41 | 37 | 24 | 42 | 37 | 20 | 38 | 17 | 19 | 16 |
| Oklahoma | 93 | 104 | 115 | 80 | 96 | 66 | 69 | 76 | 60 | 84 | .. | 61 | 76 | 47 | 56 | 69 |
| Arkansas | 40 | 64 | 41 | 4 | 53 | 72 | 63 | 22 | 46 | 16 | 37 | 14 | 33 | 14 | 21 | 5 |
| Louisiana | 18 | 8 | 8 | 11 | 9 | 15 | 9 | 8 | 9 | 12 | 10 | 10 | 14 | 18 | 13 | 15 |
| Texas . . | 198 | 204 | 206 | 168 | 176 | 203 | 208 | 163 | 210 | 209 | 222 | 115 | 204 | 206 | 168 | 167 |
| California | 33 | 37 | 30 | 49 | 34 | 28 | 25 | 17 | 26 | 8 | 37 | 26 | .... | 20 | 16 | 25 |
| Total . | 422 | 436 | 429 | 362 | 407 | 415 | 415 | 323 | 375 | 371 | 343 | 246 | *365 | 322 | 293 | 297 |

*Does not include California permits.

### KANSAS

**Butler County**—Empire Gas & Fuel Co.'s No. 33 Atkins, northwest corner of the southwest of the southwest of 20-25-5; No. 28 Finney, northwest corner of 29-25-5; No. 14 Houston, center of the northeast of the southwest of 19-26-5. National Ref. Co.'s No. 35 Mills, center of the north line of the south half of the north half of the northwest of 27-25-5. Brenman Wixton et al's No. 1 Wilhite, southeast corner of the northwest of the southwest of 27-26-7. John Rogers, No. 12 Bitler, center of the north line of the northwest of the southwest of 29-26-8. Lewis Oil Co.'s No. 2 Lill, southeast corner of the northeast of the southeast of 18-27-7. Sheldon et al's No. 1 Blunt, northwest corner of 34-27-7. Connell et al's No. 1 Nichols, northeast corner of Lot 17, 7-27-8.

**Chase County**—Preston & Posewalk's No. 1 Lipps, southwest corner of the southeast of 25-18-6; No. 1 Lipps, northeast corner of the northwest of 32-18-7. Crump & Bradley's No. 1 Newman, southeast corner of the southwest of the southeast of 13-20-8. White & Buff's No. 4 Shambaugh, southeast corner of 35-22-9.

**Greenwood County** — Sinclair Oil & Gas Co.'s No. 1 29 Browing, southeast corner of the southwest of the southeast of the southwest of 20-22-10. Empire Gas & Fuel Co.'s No. 5 Hind, northeast corner of the southeast of the southwest of 11-22-11; No. 6 Scott, northwest corner of the southeast of the southeast of 24-23-8.

### OKLAHOMA

**Kay County**—Comar Oil Co.'s No. 3 Harwell, southeast corner of the northeast of 21-29-1w. Wetnz Oil Corp.'s No. 7 Mahoney, northwest corner of the southeast of the southeast of 28-25-1w. T. B. Slick's No. 7 Endicott, southwest of the southeast of the southwest of 35-25-1w.

**Osage County**—Winona Oil Co.'s No. 1, center of the north line of the northeast of 20-29-11; No. 10, southwest corner of the northeast of the southwest of the southwest of 22-29-11. Barnsdall Oil Corp.'s No. 5, center of the east line of the northwest of the southeast of the northeast of 15-27-11. Owen Osage Oil Co.'s No. 345, northeast corner of the northwest of the southeast of the southwest of 7-27-11, now completed. Devonian Oil Co.'s No. 11, southeast of the northwest of the southeast of the southwest of 34-25-11. Indian Territory Illuminating Oil Co.'s No. 289, northwest corner of the southeast of the northwest of the northwest of 10-24-9, old well deepened. Winona Oil Co.'s No. 16, northeast of the southeast of the southeast of 28-24-10. Barnsdall Oil Corp.'s No. 15, center of the west line of the northeast of the northeast of the southeast of 18-23-12. Tidal Osage Oil Co's No. 21, southeast of the northeast of the northwest of 33-22-10. Kewanee Oil & Gas Co.'s No. 2, northeast of the northwest of the southeast of 4-22-11. Barnsdall Oil Corp.'s No. 8, northeast of the northwest of the northeast of 10-21-8. Skelly Oil Co.'s No. 1, northeast of the northwest of the southeast of 7-21-11. Pioneer Oil Co.'s No. 6-B, southeast of the northeast of the southwest of 5-20-11. Calvin & Belt's No. 5, northwest corner of the southwest of the northwest of the southeast of 5-20-11.

**Pawnee County** — Haley, Garber & Pulse's No. 3 Phillips, southeast corner of the northwest of the northeast of 5-23-5, old well deepened. Homa-Wood Oil Co.'s No. 1 Morris, south east corner of the southwest of 25-21-6. Walter E. Brown et al's No. 1 White, southwest corner of 19-20-6. Murray et al's No. 2 Wolf, northeast corner of 2-20-7, old well deepened.

**Payne County**—Josey Oil Co.'s No. 2 Laughlin, northeast corner of the northeast of the southeast of 35-19-5. Deep Rock Oil Co.'s No. 3 Berry, southeast corner of the northwest of the southeast of 23-18-3. T. C. M. Oil Co.'s No. 1 Waltman, northeast corner of the northwest of 26-18-3.

**Lincoln County**—Skelly Oil Co.'s No. 2 Hopkins, southwest corner of the northeast of 2-14-5. Magnolia Pet. Co.'s No. 1 School land, northeast of the northwest of 16-14-5.

**Creek County**—C. G. Tibbens' No. 9 Sewell, northeast corner of the southwest of the northwest of 13-14-8. Ira Anderson's No. 1 Euchie, southeast corner of the northeast of the southeast of 18-18-11. Dixie Drilling Co.'s No. 1 Bowlegs, southeast corner of the 1-17-9. Sperry et al's No. 1 Ralston, northwest corner of the southeast of the southeast of 1-16-10. Simmons & McGeehan's No. 1 Douglas, northwest corner of the southeast of 27-15-10.

**Okfuskee County** — Mid-Kansas' No. 1-A, Hennechuckee, section 17-12-7.

**Muskogee County**—C. B. Travis' No. 1 Fulsom, northeast corner of the northeast of 1-12-17.

**Tulsa County**—Sand Springs Home Oil Co.'s No. 2 London, southeast corner of the northwest of the southeast of 13-19-11. Munn Bros.' No. 1 Maxwell, center of the west line of the northeast of the southeast of 30-18-13. Green et al's No. 2 Childers, southwest corner of 2-17-14. Winemiller et al's No. 5 Mount, center of the north line of the northwest of the southwest of 12-16-12.

**Okmulgee County**—W. R. Sommerville's No. 3-A Scott, northwest corner of the south half of the southwest of the northwest of 25-13-14. Edwards et al's No. 12 Wicey, southwest corner of the northeast of the northeast of 35-16-13. Iron Mountain Oil Co.'s No. 15 Johnson, northeast corner of the northwest of the southwest of 24-13-14. A. G. Hazlett's No. 1 Tucker, southeast corner of the southwest of 2-13-14. Transcontinental Oil Co.'s No. 4 Parks, northeast corner of 9-15-11. Fagle Picher's No. 2 Unallotted, northeast corner of the southeast of the southeast of 32-13-13. Morton & Co.'s No. 3 Wilson, center of the south line of the southwest of the northeast of 7-12-12. Wooster Oil Co.'s No. 7 Been, northwest corner of the southwest of the northeast of 33-12-12. Independent Oil & Gas Co.'s No. 15 Holmes, northeast corner of the southwest of the southeast of the 13-11-11. Minnehoma Oil Co.'s No. 10 Fields, southeast corner of the northeast of the northeast of 24-11-111. Weir et al's No. 2


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Hawkins, center of the west line of the northwest of the southeast of 4-11-12. Magnolia Pet Co.'s No. 10 Thomas, northeast corner of the northwest of 1-11-13.

**Seminole County**—Wilcox Oil & Gas Co.'s No. 1 Harris, center of the northeast of the southwest of the southwest of 1-11-8. Jarvis & Holmes' No. 1 Madgett, center of the northwest of the northwest of the southwest of 4-16-6.

**Hughes County**—Dixie Oil Co.'s No. 3 Irvine, center of the northwest of the southeast of the southeast of 18-8-10; No. 3 Diamond "C" center of the southeast of the northeast of the northeast of 18-8-10. Independent Oil & Gas Co.'s No. 2 Morrison, center of the northwest of the southeast of the northeast of 18-8-10. J. W. McCullough's No. 1 Hawkins, center of the southeast of the northeast of the northwest of 12-7-9.

**Commanche County**—Mid-Kansas Oil & Gas Co.'s No. 1 Hendricks, southwest corner of the southeast of 33-3-10w. Magnolia Petroleum Co.'s No. 2 Price, center of the southeast of the southwest of the northeast of 30-2-9w.

**Wagoner County**—N. Carter's No. 1 S. Childers, northeast corner of the northwest of the northwest of 23-17-16. C. M. Bradley's No. 1 Kidd, northwest corner of the southwest of the southwest of 25-17-17.

**Stephens County** — Knox Pet. Co.'s No. 2 Sims, northwest corner of the southeast of the northwest of 2-2-5w. Eagle Creek Oil Co.'s No. 2 Brown, northwest corner of the northeast of the southeast of the northeast of 26-1-9w, old well deepened; No. 4 Brown, northwest corner of the southwest of the northeast of 26-1-9w. Crump & Beard's No. 5 Shelton, southwest corner of the northwest of the northwest of the southeast of 32-1s-8w.

**Love County**—Westheimer's No. 1 Fee, center of the northeast of the northwest of the southeast of 28-6s-2e.

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Contractor M. L. McClain started out on a fishing job on the Lambert Oil and Refining Company's NW SE 1-33-8E, near Cedarville, Kansas, for two 8-inch Swan Underreamer lugs. Complications arose. Cavey hole caused loss of first string of tools. Three slips out of a combination socket were lost in the hole in fishing for this string. Then lost tools were successfully fished and an 8-inch Devil's Steel Hand cleaned out the three slips and two lugs, shown above, in less than a tower!

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## ARKANSAS

**Ouachita County**—Imperial O. & G. Co.'s McClanahan A-8, 6-16-15, center of north line E½ NE¼ NE¼.

**Union County** — Estes et al's Murphy 2, 15-16-15, NEc NW¼ SW¼ NW¼. Pat Marr's Graves 1, 17-17-14, NWc of east 30 acres of NE¼ SE¼. Magnolia Pet. Co.'s Hosler 2, 8-16-15, NEc SW¼ NE¼. The Texas Co.'s Alphin 9, 3-16-15, SWc NE¼ SE¼.

## LOUISIANA

**Assumption Parish**—Hymalaya-Georgia Oil & Gas Co., Inc.'s Hymalaya 1, 44-14s-14e, 300 ft S and 300 ft E of NW Cor. of NW¼ of SW¼.

**Bossier Parish**—The Texas Co.'s Henry Rose 1, 31-23n-11w, 940 ft E and 450 ft N of Center of Sec.

**Caddo Parish**—Dixie Oil Co.'s Dillon 70, 14-21n-15w, 680 ft W and 25 ft S of NE Cor. of Sec; Noel B-2, 13-21n-15w, 2090 ft N and 2440 ft W ofSE Cor. of Sec. W. D. & Carrie Cole Chew's State 3, 34-21n-16w, 200 ft N and 200 ft E of SW Cor. of NW¼ of SW¼. The Ohio Oil Co.'s J. B. Ardis et al 1, 1-21n-15w, 330 ft N and 330 ft E of SW Cor. of SE¼ of SW¼. Odell & Lawton's Huckaby 5, 15-21n-15w, 50 ft S and 40 ft E of NW Cor. of NE¼ of SE¼.

**Calcasieu Parish**—Wallace Reed's Reed 1, 18-10s-12w, 200 ft N and 200 ft E of SW Cor. of 9-10s-9w, 615 ft E and 725 ft S of NW Cor. of SW¼ of NE¼. Vinton Pet. Co.'s Gray-Rescue 15, 4-11s-12w, 675 ft W and 685 ft S of NE Cor. of NE¼ of NE¼.

**Cameron Parish**—Yount-Lee Oil Co.'s State 1, 16-12s-10w, 1222 ft N and 1197 ft E of SW Cor. of Sec.

**De Soto Parish**—T. E. Bentley's Hewitt & Ricks 1, 10-11n-14w, 180 ft E and 360 ft S of NW Cor. of NE¼.

**Jefferson Davis Parish**—The Union Sulphur Co.'s Lock-Moore 1, 35-7s-6w, 320 ft S and 320 ft E of NW Cor. of SE¼ of SE¼.

**Webster Parish**—Humble Oil & Ref. Co.'s W. M. Barrow 1, 21-21n-10w, 1650 ft N and 330 ft W of Center of Sec; R. R. Cox 1, 22-21n-10w, 990 ft S and 330 ft W of NE Cor. of Sec.

## CALIFORNIA

**Brea Olinda Field**—Birch Oil Co.'s No. 2-A, 2-3-10.

**Conejo Field**—C. A. Harding Trustee's No. 52, 33-2-20; No. 19, 34-2-20.

**Elk Hills Field**—Pacific Oil Co.'s No. 122, 35-30-24.

**Huntington Beach Field**—Standard Oil Co.'s B-38, 4-6-11; B-3, 3-6-11.

**Inglewood Field** — Producers Holding Co.'s No. 1, 7-2-14. Standard Oil Co.'s Los Angeles Investment 1-33, 17-2-14.

**Long Beach Field**—R. Whiston's McMillan 1, 24-4-13. Apex Pet. Corp.'s No. 4, 24-4-13. Featherstone & Preston's No. 8, 24-4-13; No. 11, 24-4-13. George W. Johnson's No. 1, 13-4-13.

**Los Angeles County Field** — Bardeen Oil Co.'s No. 3, 9-2-10. A. T. Jergins Trustee's Palos Verdes 1, 34-4-13.

**Midway Field**—Midland Oilfields Co. Ltd.'s No. 6, 34-31-24.

**Montebello Field**—Superior Oil Co.'s Anderson A-1, 6-2-12.

**Orange Field**—Henry Whitcups' No. 1, 27-6-10.

**Riverside County Field**—Beaumont Riverside Oil Synd.'s 1-A, 18-3-1.

**Rosecrans Field**—Union Oil Co.'s Howard Park 25, 18-3-13; Howard Park 26, 18-3-13.

**Sunset Field**—Midland Oilfields Co. Ltd.'s No. 7, 32-12-23; Maricopa Star 1, 32-12-23.

**Torrance Field**—Shell Co. of Calif.'s Torrance 6, 9-4-14.

**Ventura County Field**—A. F. Calhoun's No. 1, 9-3-23.

## TEXAS

**Archer County**—Murchison & Fain Oil Co.'s, Wichita Falls, J. L. Anderson B-1, B 19, Anderson sur, 150 ft to N and E lines; A-1, same sur, 165 ft to W and 330 ft to N line; J. T. Richardson B-1, B-11, T McCoy sur, 660 ft

to N and W lines; J. T. Richardson C-1, B 11, same sur, 660 ft to N and W lines. Perkins & Cullum's, Box 1020, Wichita Falls, J. L. Anderson 6, B 22, Anderson sur, 300 ft E No. 4. Shappell Oil Co.'s, Wichita Falls, J. L. Jackson 32, B 23, D. C. S. L. sur, 300 ft N No. 31. Waite Phillips Co.'s Tulsa, Okla., L. F. Wilson 35, S 1, BBB&C Ry sur, 320 ft SW No. 1; 36, same sur, 375 ft SE No. 8; 1, Wm. Horritz sur, 150 ft to N and 1220 ft to W line; 33, same sur, 330 ft S No. 21; 34, same sur, 330 ft S No. 9; 32, same sur, 330 ft S No. 22; 31, same sur, 330 ft E No. 22; 30, same sur, 330 ft E No. 19; T. B. Wilson 5-B, B. Howard sur, 330 ft S No. 2-B; 4-B, same sur, 330 ft E 2-B; D. L. Wolf 11, BBB&C Ry sur, 330 ft S No. 6; 12, same sur, 330 ft E No. 11. Lyon, Verden & Thrasher's, 710½ Indiana Avenue, Wichita Falls, E. A. Hausler 1, J. Standerford sur, 150 ft to N and E line. Dale Oil Corp.'s Wichita Falls, H. Wilmot 16, S 12, S. P. Ry sur, 50 ft S No. 10; 18, same sur, 50 ft N No. 4.

**Atascosa County**—Grayburg Oil Co.'s, San Antonio, W. F. Hartung 18, 1172 E. Schnoover sur, 1500 ft S No. 6.

**Brown County**—T. B. Slick's, Oklahoma City, Okla., V. Leach 1, No. 614 M. Flores sur, 170 ft to S and 150 ft to S line. Conway Bros.', Box 41, Cross Plains, W. W. Woolridge 1, E. T. Ry sur, 150 ft to N and E lines; T. J. Clark 1, E. T. Ry sur, 155 ft to S and E line. F. C. Hays', Box 729, Tulsa, Okla., R. B. Martin 1, No. 613 I. Day sur.

**Baylor County**—C. E. Rodgers', City Nat. Bank Bldg., Wichita Falls, W. B. Mills 1, 2427 TE&L sur, 150 ft to N and E lines. Maer & Staniforth's, City Nat. Bank Bldg., Wichita Falls, W. B. Mills 3, 2428 TE&L sur, 150 ft to N and E line. Bridwell & Mayfield's, Wichita Falls, J. H. Turbeville 1, S 92, T&NO Ry sur, 2481 ft to N and 150 ft to E line.

**Bexar County**—Grayburg Oil Co.'s, San Antonio, Gembler 1, No. 36 Wm. Snell sur, NW cor. Helvetia Oil Co.'s, San Antonio, J. M. Smith 1, No. 266 McSnyder sur, 200 ft to N and 150 ft to W line.

**Callahan County**—Parkersburg Drilling Co.'s Box 19, Cisco, E. W. Pruett 23, 2278 TE&L sur, 450 ft to N and 550 ft to E line. J. W. Keyes', Cisco, Swafford 1, B 70, C. C. S. L. sur. S. J. Price's, 727 Essex St., Wichita Falls, I. G. Mobley 1, 2294 TE&L sur, 1050 ft to W and 375 ft to S line. L. G. Bradstreet's, Box 411, Cross Plains, C. C. Westerman 1, B 54, C. C. S. L. sur, 150 ft to N and W lines. W. M. Wilson's, Corsicana, Wm. Franke 1, No. 181 sur, 150 ft to S and E lines; 1, Blk 56, same sur, 750 ft to E and 150 ft to S line. B. F. Garner's, Box 148, Cross Plains, A. Rudloff 1, B 38, C. C. S. L. sur, NE Cor. Godley Oil & Gas Co.'s, Henrietta, J. H. Ogle 1, 2297 TE&L sur, 150 ft to W and 450 ft to S line. W. R. Andrews et al's, Putnam, Mrs. R. D. Williams 33, 2973 TE&L sur, 1050 ft to W and 800 ft to S line. Stone & Kirk's, Cross Plains, Blk. 52 No. 1, Central Add., center of block; Blk. 69, No. 1, Central Add., center of block. J. R. Rooch's, Graham, R. C. Wylie 1, 2040 TE&L sur, 510 ft to W and 150 ft to S line. Texas Pacific Coal & Oil Co.'s, Ranger, C. C. Westerman 1, S 54, C. C. S. L. sur, 150 ft to N and W lines. C. O. Moore et al's, Cross Plains, J. W. McDaniel 6, C. C. S. L. sur, 600 ft N No. 4. Russell & Van Bebber's, Baird, S. M. Davis 4, S 3, Bayland Asy sur. T. E. Davis', Vernon, J. H. Johnson 2, S 19, Bayland Asy sur, 150 ft to N and E lines. Electra-Callahan Oil Co.'s, Electra, J. H. Ogle 16, 2977 TE&L sur, 312 ft S No. 13. Hutton & Webster's, 511 Broadway, Cisco, W. M. Moore 1, S 3, GC&SF Ry sur, 450 ft to S and W lines. R. N. Hamilton's, Cisco, C. T. Hutchinson 1, S 309, S. P. Ry sur, 450 ft to E and 300 ft to S line. H. H. Whitmore's, 1200 Ave L, Cisco, R. D. Williams 1, S 2, D&D Asy sur, 150 ft to S and E lines. S. H. Walle et al's, Cisco, R. A. Parks 3, 3194 TE&L sur, 300 ft W No. 1. Texas Co.'s, Cisco, G. H. Clifford 9, 3151 TE&L sur, 2020 ft to N and 1717 ft to W line. Goodloe & Tollett's, Staley Bldg., Wichita Falls, J. S. Burman 6, 2288 TE&L sur, 300 ft W No. 5. H. C. Sample's, Putnam, E. L. Finley 1, S 10, D&D Asy sur, 450 ft to W and 150 ft to S line. Lowe, DeLaney & Carter's, De Leon, S. C. Barr 1, B 77, Central Add.

**Clay County**—J. F. Nelson's, Texas Hotel, Wichita Falls, J. S. Chapin 1, B 81, Byers Bros. sur, 150 ft to N and E lines. Cook &


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McElreath's, City Nat. Bank Bldg., Wichita Falls, W. H. Myers 1, S 37, P. C. S. L. sur, 150 ft to S and E lines.

**Coleman County** — S. C. Canary's, Tulsa, Okla., J. P. Morris 1, S 71, T&NO Ry sur, 660 ft to W and 2108 ft to S line. A. R. Frenzel's, Coleman, Fee 1, B 263, J. W. Hicks sur, 150 E Central.

**Cooke County** — Chas. Pettitt's, Magnolia Bldg., Dallas, Mrs. M. F. Williams 1, C. A. McKay sur, 660 ft to N and E lines.

**Culberson County**—California Co.'s, Box 846, Colorado, M. A. Grisham 1-A, S 18, B 91, School sur, 20 ft W No. 1.

**Caldwell County** — Gulf Production Co.'s, Houston, C. H. Beaty 28, J. Burleson sur, 1200 ft SW No. 26.

**Eastland County**—H. Y. Oil Co. Inc.'s, Fort Worth, J. H. West 20, 2299 TE&L sur, 200 ft to N and 650 ft to W line.

**Freestone County**—Ray & Massie's, City Nat. Bank Bldg., Wichita Falls, H. F. Seale 1, S. McAnulty sur, 150 ft to N and W lines.

**Fort Bend County**—Gulf Prod. Co.'s, Houston, West-Schench 3, T. Hobermaker sur, 484 ft to N and 119 ft to E line; T. W. Davis 23, M. Young sur, 812 ft E No. 21.

**Foard County**—Murchison & Fain Oil Co.'s, Wichita Falls, M. L. Hughston 1, S 332, H&TC Ry sur, 660 ft to S and W lines.

**Fayette County** — McClanahan & Stubbs', Muldoon, C. A. Wolters 1, W. Higgins sur, 357 ft to W and 524 ft to S line.

**Harris County**—Gulf Prod. Co.'s, Houston, Houston Smith 8, Wm. Scott sur, 50 ft to E in center of line. Rio Bravo Oil Co.'s, S. P. Bldg., Houston, Fee P-2, BBB&C Ry sur No. 1028, 650 ft to E and 200 ft to S line. Texas Co.'s, Houston, T. F. Mackmiller 4, J. Erwin sur, 200 ft to S and E lines.

**Hill County**—Pure Oil Co.'s, Mexia, F. P. Barton 1, Tyler Co. S. L. sur, 300 ft to NW and 150 ft to NE line.

**Harrison County**—Irick Oil Co. of Ohio's, Waskom, A. Vincent 1, R. W. Bedford sur, 200 ft to N and W lines.

**Hutchinson County**—J. D. Wolf's, Nunn Bldg., Amarillo, E. Cockrell 1, S 3, M&C sur, 660 ft to W and 320 ft to S line; E. Cockrell 1, S 2, M&C sur, 330 ft to N and W lines.

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**Hardin County** — Vacuum Oil Co.'s Gulf Bldg., Houston, T. R. Teel 2, T. C. Gaines sur, 1000 ft SW No. 1.

**Hidalgo County**—Dayle L. Smith Oil Co.'s, McAllen, J. Garza 2, S 46, B 37, 300 ft to N and 250 ft to E line.

**Jefferson County** — Hamm-Brechin Drilling Co.'s, Box 401, Beaumont, Gladys 2, Blk 21, J. A. Veatch sur, 20 ft to NW cor of Blk 21, Houston Oil Co.'s, Houston, Pipkin-Davis 1, Wm. McFaddin sur, 140 ft to W and 180 ft to S line. Gulf Production Co.'s, Houston, E. Thomas 4, W. H. Smith sur, 1000 ft W No. 3. C. G. Hooks', Gilbert Bldg., Beaumont, J. E. Broussard 1, S. Miles sur, 300 ft to N and 1000 ft to W line.

**Jim Hogg County**—Kitselman & St. Albans' Laredo, R. Holbein 2, S 12, Las Animas sur, 150 ft to S and W lines.

**Jeff Davis County**—Herbert Oil Co.'s, Majestic Bldg., Ft. Worth, T. M. Wingo 1, S 20, B 25, 1320 ft to N and 1170 ft to E line.

**Kleberg County**—Humble Oil & Ref. Co.'s, Houston, King 2, F. M. Diamond sur.

**Liberty County**—Dayton Oil Co.'s, Box 267, Dayton, P. Kayser 3, S 125, H&TC Ry sur, 100 ft to E and 1590 ft to S line. Canter Oil Co.'s, Daisetta, H. P. Smith 1, J. Devore sur, 50 ft to N and E lines. Higgins Oil & Fuel Co.'s, Houston, H. P. Smith 7, J. Devore sur, 252 ft to N and 50 ft to E line. Geo. Leland's, First Nat. Bank Bldg., Houston, Groggan Lbr. Co. 1, S 157, H&TC Ry sur, 100 ft to N and W lines.

**Milam County**—Jennings Oil Co. Inc.'s, Yoakum, H. A. Branch 8, T. J. Chambers sur, NW cor. Glass Oil Co.'s, Minerva, J. H. Holliman 1, J. H. Smith sur, 150 ft to N and 450 ft to W line. J. S. Owens', Cameron, Milam Co. 1. Uncle Tom Oil Co.'s, Minerva, T. Phillips 3, T. J. Chambers sur, 360 ft NE No. 2; 4, same sur, 416 ft SW No. 1. Simms Oil Co.'s, Magnolia Bldg., Dallas, B. F. Stidham 1, J. B. Jones sur, 600 ft to S and W lines. Chicago Oil & Land Co. Inc.'s, Rockdale, W. E. Gaither 4, T. J. Chambers sur, 150 ft to N and E lines.

**Montague County**—Wilcox & Co.'s, Box 447, Nocona, C. R. Black 1, B. McGaha sur, 450 ft to N and 150 ft to E line.

**McCullough County** — H. O. Westerfield's, Cisco, G. R. White 1, S 276, 600 ft to N and E lines.

**Navarro County**—G. C. Kent's, Corsicana, G. W. Tickele 1, J. T. Bell sur, North Central.

**Orange County**—Humble Oil & Ref. Co.'s, Houston, Chesson 23, Wm. Dyson sur, 25 ft S No. 18.

**Palo Pinto County**—H. H. Adams', Fort Worth, O. W. Pollard 2, S 43, T&P Ry sur, 200 ft to E in center of line.

**Shackelford County**—Kleiner Bros. & Dickey Bros.', Cisco, Cottle 1, 2048 TE&L sur, 2650 ft to N and 150 ft to W line. Phillips Pet. Co.'s, Bartlesville, Okla., Compton 2-A, S 49, Blind Asy sur, 800 ft to N and 660 ft to E line; F. S. Smalley 1, S 13, E. T. Ry sur, 3379 ft to W and 661 ft to S line; J. A. Parrish 9, S 47, Blind Asy sur, 250 ft to W and 437 ft to S line. Humble Oil & Ref. Co.'s, Wichita Falls H. Palm 3, S 67, L. A. L. sur, 750 ft to W and 450 ft to S line. Moutray Oil Co. & Reiter Foster Oil Corp.'s, Cisco, L. M. Griffith 3, S 37, L. A. L. sur, 150 ft to N and W lines. Steele & Eldrige's, Box 711, Moran, N. J. Brewster 1, S 7, Univ. Lands sur, 1050 ft to W and 300 ft to S line.

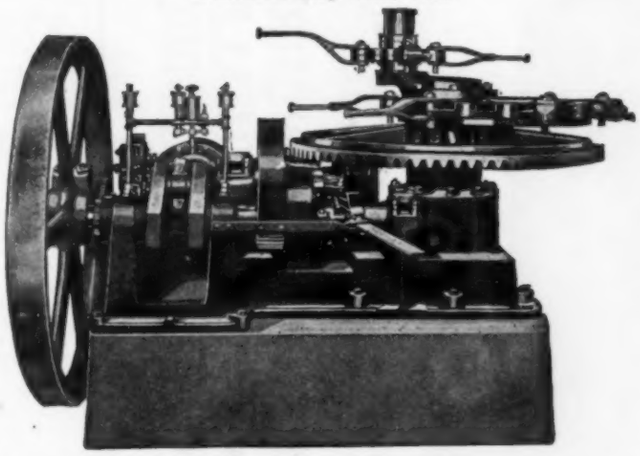
**Stephens County**—G. O. Bateman et al's, Breckenridge, H. Compton 1, S 20 Blind Asy sur, 300 ft to W and 600 ft to S line. Bon Raney's, Breckenridge, K. Hammil 1, S 1, T&P Ry sur, 600 ft to N and 400 ft to W line.

**Throckmorton County**—Humble Oil & Ref. Co., Houston, R. L. Harrison Blk 1, 2354 TE&L sur, 150 ft to S and E lines

**Wichita County** — P. J. White's, City Nat. Bank Bldg., Wichita Falls, Guarantee State Bank 1, S 25, H&TC Ry sur, 150 ft to W and 225 ft to S line. Atlantic Oil Prod. Co.'s, Magnolia Bldg., Dallas, M. Mitchell B-1, C. T. Ry sur, 150 ft to E and 450 ft to S line. Apple-Brandeberry Oil Co.'s, Wichita Falls, Mrs. G. Jennings 5-B, S 12, HT&B Ry sur, 750 ft to N and 150 ft to E line. Acme Production Co.'s, Box 182, Breckenridge, J. N. George 1, O. Farrish sur, 150 ft to N and W lines. Gulf Production Co.'s, Fort Worth, J. F. Miller A-2, W. R. Eaves sur, 319 ft NE No. 1. Ryan Petroleum Co.'s, Bartlesville, Okla., G. Nance 41, S. O. Fowler sur, 1800

# Pattin Combination Geared Power

Patented May 26th, 1925



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Fitted with an eccentric and disc making it really a double eccentric power, direct connected to a Pattin Standard 4-cycle Gas Engine.

Rigidly constructed—built in two sizes 15 and 20 H. P.—it is without question the most practical and efficient pumping outfit on the market.

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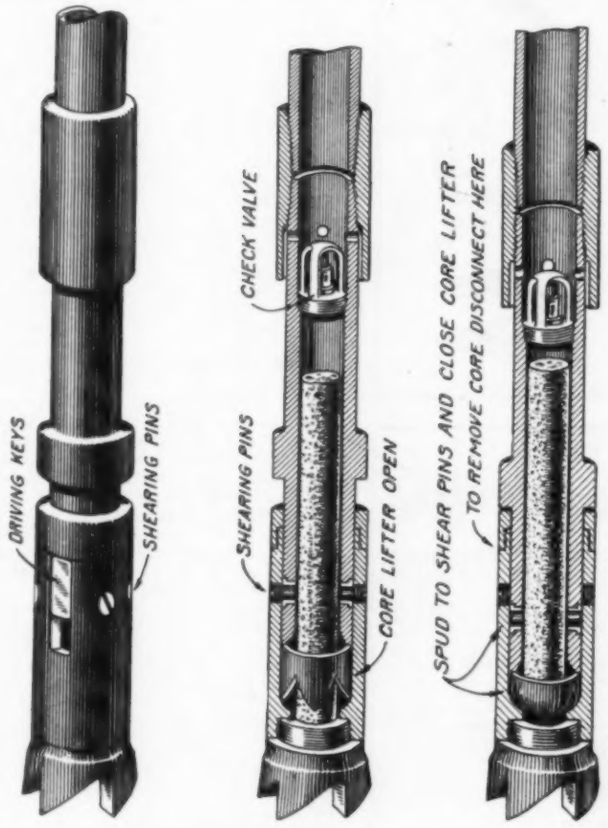
**Marietta, Ohio**

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The GULFCO Core drill positively seals the core at the bottom of the well allowing it to be removed intact.

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The core lifter, a piece of pipe cut to form a perfectly closed cup when forced down against the rounded edges of the drilling sleeve, is kept from collapsing under ordinary drilling pressures by the shearing pins. When the core is made the drill pipe is spudded which shears these pins and closes the prongs of the core lifter.

Shearing pins can be used in combinations to shear at any weight between 14,000 and 68,000 lbs.

Fast rotation under excessive pressures to close the ordinary core barrel and the consequent burning of cores is eliminated.

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ft to N and 1920 ft to W line. J. W. Duncan's, Wichita Falls, H. H. Temple 5, J. E. Parker sur, 450 ft to E and 150 ft to S line. Homer Lee, Wichita Falls, J. & J. Waggoner 9, J. Aldridge sur, 300 ft E No. 8; 10, same sur, 300 ft E No. 9. Turner Drilling Co.'s, Staley Bldg., Wichita Falls, D. C. Holten 1, L. Powell sur, 150 ft to N and W lines. W. L. Mann's, Wichita Falls, Roller Est. 8, J. Mumpford sur, 150 ft N No. 7. R. R. Clark's, 2001 Lucille St., Wichita Falls, W. H. Chilson 1, M. Ramsey sur, 113 ft to S in center of line. Oil Investment Co.'s, Wichita Falls, E. F. Gaston 1, J. Aldridge sur, 150 ft to N and E lines. B. C. M. T. Oil Co.'s, 821 Indiana Ave., Wichita Falls, H. Willis 1, BBB&C Ry sur, 150 ft to N and E lines. Magnolia Pet. Co.'s, Dallas, J. E. Watkins 8, H. B. Balch sur. T. F. Hunter's, Wichita Falls, J. & J. Waggoner 4, S 8, GH&H Ry sur, 247 ft to W and 2310 ft to S line. W. L. May's, West Craig, San Antonio, E. Hardin 5, O. Farrish sur, 150 ft to N and 500 ft to E line; 4, same sur, 350 ft E No. 3. Fresno Oil Co. et al's, Wichita Falls, A. F. Dodson 4, R. Hornsby sur, 300 ft N No. 1. Kemrow Prod. Co.'s, Box 148, Wooster, Ohio, Burnett-Lloyd 49, S 6, S. B. Burnett sur, 600 ft N No. 48. Petroleum Prod. Co.'s, City Nat. Bank Bldg., Wichita Falls, Kemp & Allen 17-B, B. 28, W. V. F. L. sur, 160 ft to N and W lines; 16-B, same sur, 300 ft S No. 15. Dale Oil Corp.'s, Wichita Falls, G. Jennings 15, S 12, HT&B Ry sur, 300 ft W No. 13. Keener Oil & Gas Co.'s, Box 1402, Tulsa, Okla., T. L. Burnett 23, S 5, HT&B Ry sur, 2380 ft to S and 150 ft to E line. Grayce Oil Co.'s, City Nat. Bank Bldg., Wichita Falls, S. M. Daniel 15, H. Hastie sur, 600 ft to W and 150 ft to S line. Texhoma Oil & Ref Co.'s, Wichita Falls, D. L. Horton 5, BBB&C Ry sur, 150 ft to S and W lines; Waggoner Bros. 4, S 11, BS&F Ry sur, 150 ft to W and 170 ft to S line; 5, same sur, 470 ft to N and 150 ft to W line; 6, same sur, 150 ft to N and 470 ft to W line; D. L. Horton 4, BBB & C Ry sur, 345 ft W No. 1. Winnipeg Oil Co.'s, Wichita Falls, Foster & Allen 5, B 833, S. Denison sur, 300 ft NE No. 1.

**Wilbarger County**—Murchison & Fain Oil Co.'s Wichita Falls, W. T. Waggoner C-1, S 18, H&TC Ry sur, 1170 ft to N and E line. Winnipeg Oil Co.'s Bob Waggoner Bldg., Wichita Falls, Williams, Bond & Hawkins 1, S 100, H&TC Ry sur, 150 ft to N and 450 ft to E line. Texas Co.'s, Wichita Falls, W. T. Waggoner 304, S 14, N. Keys sur, 3534 ft to N and 559 ft to E line. Roxana Pet. Corp.'s, South Bend, W. T. Waggoner A-2, S 43, H&TC Ry sur, 220 ft to S and E lines. Texhoma Oil & Ref. Co.'s, Wichita Falls, W. T. Waggoner 1, S 49, H&TC Ry sur, 150 ft to S and W lines. Staley & Wynne's, Staley Bldg., Wichita Falls, W. H. Stephens 7, S 83, H&TC Ry sur, 350 ft W No. 2; Bond 3, S 100, same sur, 300 ft N No. 12. Landreth Prod. Corp.'s, Vernon, W. T. Waggoner H-1, S 46, H&TC Ry sur, 150 ft to S and W lines; G-1, S 43 same sur, 150 ft to N and W lines. Humble Oil & Ref. Co.'s Wichita Falls, W. T. Waggoner 2, S 46, H&TC Ry sur, 150 ft to S and E lines. Milham Corp. of Texas', Travis Bldg., San Antonio, W. T. Waggoner 1-D, S 9, H&TC Ry sur, 150 ft to S and W lines.

**Webb County** — Wm. F. Morgan's, Travis Bldg., San Antonio, C Webster 2, S 684, 184 ft to N and 450 ft to W line. Rydal Oil Corp.'s, Texas Nat. Bank Bldg., San Antonio, A. M. Bruni 1, B 15, A. de Airiba sur.

**Wise County** — Transcontinental Oil Co.'s, Tulsa, Okla., S. Castlebury 1, W. D. Young sur, 1147 ft to W and 115 ft to S line.

**Wharton County** — Texas Co.'s, Houston, S. T. Taylor 3, S. F. Austin sur, 1050 ft to NE and 270 ft to NW line.

**Young County**—Murchison & Fain Oil Co. s, Wichita Falls, J. A. Hutchings 1, 230 TE&L sur, 450 ft to N and 1800 ft to W line; J. M. Bloodworth 1, 157 TE&L sur, 933 ft to N and 482 ft to W line; H. Wilson 2, J. Poitevent sur, 300 ft W No. 1; 3, same sur, 300 ft S No. 1; R. Campbell B-3, 236 TE&L sur, 150 ft to N and 300 ft to E line; E-1, 1371 TE&L sur, 150 ft to N and 1150 ft to E line; E-2, same sur, 300 ft E No. 1; J. Hauler 2, J. Poitevent sur, 150 ft to S and 450 ft to E line; 1, same sur, 2490 ft to W and 450 ft to S line; L. J. Kilcrease 1, 1809 TE&L sur, 150 ft to N and E lines; H. L. Morrison 1, 158 TE&L sur, 250 ft to S and 1500 ft to W line.

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# The O. W. Combination Rod Socket

This is the tool that will take the grief out of your sucker rod fishing jobs. We absolutely guarantee to do this.

*Standard Sucker Rod Pin*

Has only one set of slips. And they are long enough to allow the broken rod to enter far enough to insure gripping.

*Special Tempered Steel Spring*

*A Steel plug that carries the three slips by means of three steel pins pressed into the plug*

*Slips are special heat treated and guaranteed not to break*

*Bowls or Guide Noses threaded to fit this end*

Patent applied for

The O. W. Combination Rod Socket will catch any rod from 5/8-inch to 7/8-inch without changing slips.

It can be run in 2, 2½ and 3-inch tubing by simply changing the bowl or guide nose on the lower end.

Only one bowl furnished with each socket.

*Manufactured and Sold by*

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4333 St. Louis Ave.
St. Louis, Mo.


## September Average Slight Gain Over August

(Continued from Page 33)

the river. This well, completed by the Gypsy Oil Company, had initial output of 350 barrels.

Although the development attendant upon this well brought a court battle over the lands in the Arkansas river bed, it is certain that the development across the river will result in greater production for the field. Dry holes, however, indicate that any extension of the Rainbow Bend pool east of the Arkansas river will be of little consequence as to area.

Kansas field developments ran slightly behind August but the difference in the number of completions for each month can be accounted for in the fact that September had but 30 days, while August had the benefit of 31. September completions were 138, while August showed 146. Initial production in September was 14,208 barrels, while August showed only 11,663 barrels.

Major fields in the light oil producing section of Texas registered a substantial decline in production during September, with the exception of the Big Lake field in the western part of the state. The outstanding production loss is coming from the five fields comprising the Mexia-Corsicana district, where natural depletion of the Woodbine sand pay accounted for a drop of approximately 200,000 barrels over the month. Archer and Young Counties experienced a noticeable slump in monthly output during September as result of new production lagging behind during the forepart of the month.

The Big Lake field produced more than one million barrels of oil during September, and was able to cross this high mark by the completion of a number of big wells on proven acreage within a short period.

# Summary of Field Operations for September

## Eastern States Summary

| County— | Completions | Producers | Gas Wells | Failures | Initial Prod. |
|---|---|---|---|---|---|
| Pennsylvania | 149 | 108 | 28 | 13 | 1,787 |
| West Virginia | 155 | 56 | 69 | 30 | 577 |
| Kentucky | 131 | 90 | 7 | 34 | 1,023 |
| New York | 25 | 24 | 1 | .. | 105 |
| Tennessee | 5 | 1 | .. | 4 | 2 |
| Indiana | 11 | 7 | 1 | 3 | 167 |
| Illinois | 12 | 11 | .. | 1 | 837 |
| Ohio | 195 | 123 | 33 | 39 | 2,340 |
| Totals | 683 | 420 | 139 | 124 | 6,838 |

### PENNSYLVANIA

| | | | | | |
|---|---|---|---|---|---|
| Allegheny | 1 | .. | 1 | .. | .... |
| Bradford | 66 | 63 | 1 | 2 | 292 |
| Butler | 13 | 4 | 5 | 4 | 47 |
| Center-Middle | 14 | 12 | 1 | 1 | 254 |
| Clarion | 8 | 3 | 3 | 2 | 26 |
| Greene | 23 | 5 | 15 | 3 | 1,102 |
| Venanago | 24 | 21 | 2 | 1 | 66 |
| Totals | 149 | 108 | 28 | 13 | 1,787 |

### WEST VIRGINIA

| | | | | | |
|---|---|---|---|---|---|
| Boone | 4 | 2 | 2 | .. | 55 |
| Cabell | 4 | .. | 2 | 2 | .... |
| Calhoun | 6 | 6 | .. | .. | 41 |
| Doddridge | 13 | 9 | 2 | 2 | 210 |
| Gilmer | 9 | 3 | 4 | 2 | 10 |
| Harrison | 8 | 1 | 7 | .. | 3 |
| Kanawha | 9 | .. | 9 | .. | .... |
| Lewis | 7 | 1 | 4 | 2 | 5 |
| Lincoln | 7 | .. | 7 | .. | .... |
| Logan | 2 | .. | 2 | .. | .... |
| Marion | 4 | 1 | 2 | 1 | 5 |
| Marshall | 5 | 3 | 2 | .. | 27 |
| Mingo | 3 | 1 | 1 | 1 | 13 |
| Monongalia | 2 | .. | 2 | .. | .... |
| Pleasants | 8 | 3 | 1 | 4 | 17 |
| Preston | 1 | .. | .. | 1 | .... |
| Putnam | 13 | 10 | .. | 3 | 80 |
| Ritchie | 19 | 4 | 10 | 5 | 61 |
| Roane | 8 | 2 | 5 | 1 | 12 |
| Tyler | 7 | .. | 4 | 3 | .... |
| Wetzel | 5 | 1 | 1 | 3 | 3 |
| Wirt | 4 | 2 | 2 | .. | 9 |
| Wood | 7 | 7 | .. | .. | 26 |
| Totals | 155 | 56 | 69 | 30 | 577 |

### KENTUCKY

| | | | | | |
|---|---|---|---|---|---|
| Allen | 14 | 7 | .. | 7 | 52 |
| Barren | 38 | 31 | 2 | 5 | 323 |
| Cumberland | 3 | 1 | .. | 2 | 67 |
| Elliott | 1 | .. | .. | 1 | .... |
| Floyd | 2 | .. | 2 | .. | .... |
| Grayson | 1 | .. | .. | 1 | .... |
| Greenup | 1 | .. | .. | 1 | .... |
| Hopkins | 2 | 2 | .. | .. | 42 |
| Johnson-McGoffin | 11 | 11 | .. | .. | 66 |
| Lawrence-Johnson | 7 | 6 | .. | 1 | 43 |
| Lee-Owsley | 6 | 1 | 3 | 2 | 25 |
| Macon | 1 | .. | .. | 1 | .... |
| Morgan | 1 | .. | .. | 1 | .... |
| Overton | 1 | .. | .. | 1 | .... |
| Owensboro | 19 | 13 | .. | 6 | 145 |
| Simpson | 2 | 1 | .. | 1 | 4 |
| Warren | 16 | 12 | .. | 4 | 184 |
| Wayne | 4 | 4 | .. | .. | 67 |
| Wolfe | 1 | 1 | .. | .. | 5 |
| Totals | 131 | 90 | 7 | 34 | 1,023 |

### NEW YORK

| | | | | | |
|---|---|---|---|---|---|
| Allegany | 21 | 21 | .. | .. | 61 |
| Bolivar | 4 | 3 | 1 | .. | 44 |
| Totals | 25 | 24 | 1 | .. | 105 |

### TENNESSEE

| | | | | | |
|---|---|---|---|---|---|
| Clay | 5 | 1 | .. | 4 | 2 |

### INDIANA

| | | | | | |
|---|---|---|---|---|---|
| Delaware | 1 | .. | .. | 1 | .... |
| Blackford | 1 | 1 | .. | .. | 2 |
| Gibson | 2 | 1 | .. | 1 | 45 |
| Jay | 4 | 4 | .. | .. | 105 |
| Pike | 1 | 1 | .. | .. | 15 |
| Sullivan | 2 | .. | 1 | 1 | .... |
| Totals | 11 | 7 | 1 | 3 | 167 |

### ILLINOIS

| | | | | | |
|---|---|---|---|---|---|
| Clark | 6 | 6 | .. | .. | 290 |
| Lawrence | 2 | 2 | .. | .. | 37 |
| Marion | 1 | 1 | .. | .. | 5 |
| Wabash | 3 | 2 | .. | 1 | 505 |
| Totals | 12 | 11 | .. | 1 | 837 |

### OHIO

| | | | | | |
|---|---|---|---|---|---|
| Allen | 8 | 7 | .. | 1 | 86 |
| Ashland | 2 | .. | 2 | .. | .... |
| Athens | 15 | 6 | 5 | 4 | 28 |
| Auglaize | 5 | 4 | .. | 1 | 32 |
| Cayahga | 1 | .. | 1 | .. | .... |
| Columbia | 1 | 1 | .. | .. | 3 |
| Coshocton | 5 | 4 | .. | 1 | 139 |
| Darke | 1 | .. | .. | 1 | .... |
| Fairfield | 3 | .. | 1 | 2 | .... |

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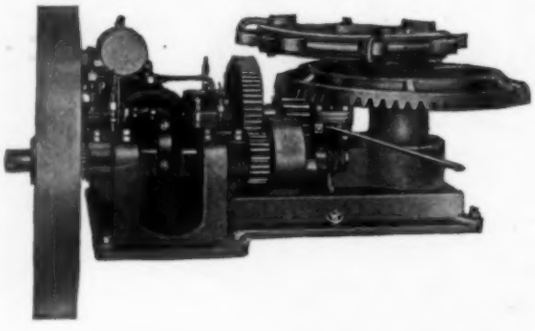

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Used for unit operation by many of our largest operators with gratifying results. Ask for catalogue and prices.

**THE SPENCE MACHINE CO.**

Parkersburg, W. Va.

| County— | Completions | Producers | Gas Wells | Failures | Initial Prod. |
|---|---|---|---|---|---|
| Guernsey | 3 | 1 | 2 | .. | 12 |
| Hancock | 7 | 7 | .. | .. | 252 |
| Hardin | 2 | 2 | .. | .. | 95 |
| Harrison | 2 | 1 | .. | 1 | 2 |
| Hocking | 14 | 6 | 3 | 5 | 335 |
| Holmes | 5 | 2 | 2 | 1 | 260 |
| Jackson | 1 | .. | 1 | .. | .... |
| Jefferson | 2 | 1 | .. | 1 | 1 |
| Knox | 3 | 1 | 1 | 1 | 2 |
| Licking | 21 | 17 | 3 | 1 | 454 |
| Lorain | 2 | .. | 1 | 1 | .... |
| Lucas | 2 | 2 | .. | .. | 7 |
| Medina | 3 | 1 | 1 | 1 | 1 |
| Mercer | 6 | 5 | 1 | .. | 52 |
| Meigs | 4 | 4 | .. | .. | 16 |
| Monroe | 3 | 1 | .. | 2 | 2 |
| Morgan | 11 | 9 | 2 | .. | 33 |
| Muskingum | 1 | 1 | .. | .. | 15 |
| Noble | 4 | 2 | .. | 2 | 10 |
| Ottawa | 2 | 2 | .. | .. | 26 |
| Paulding | 3 | 3 | .. | .. | 75 |
| Perry | 7 | 5 | 1 | 1 | 128 |
| Richland | 1 | .. | 1 | .. | .... |
| Sandusky | 3 | 3 | .. | .. | 20 |
| Seneca | 1 | 1 | .. | .. | 50 |
| Shelby | 10 | 5 | 2 | 3 | 73 |
| Van Wert | 4 | 3 | .. | 1 | 41 |
| Washington | 19 | 10 | 3 | 6 | 29 |
| Wayne | 5 | 1 | 2 | 2 | 45 |
| Wood | 5 | 5 | .. | .. | 49 |
| Totals | 195 | 123 | 33 | 39 | 2,340 |

## Mountain States Summary

| | | | | | |
|---|---|---|---|---|---|
| Wyoming | 62 | 60 | .. | 2 | 5,542 |
| Montana | 41 | 34 | 2 | 5 | 6.547 |
| New Mexico | 2 | 2 | .. | .. | 475 |
| Colorado | 1 | 1 | .. | .. | 300 |
| Totals | 106 | 98 | 1 | 7 | 12,864 |

### WYOMING

| | | | | | |
|---|---|---|---|---|---|
| Big Muddy | 1 | 1 | .. | .. | 50 |
| Grass Creek | 1 | 1 | .. | .. | 80 |
| Lance Creek | 1 | .. | 1 | .. | .... |
| Little Lost Soldier | 1 | 1 | .. | .. | 110 |
| Sage Creek | 1 | .. | .. | 1 | .... |
| Salt Creek | 56 | 56 | .. | .. | 5,052 |
| Simpson Ridge | 1 | 1 | .. | .. | 250 |
| Totals | 62 | 60 | 1 | 1 | 5,542 |

### MONTANA

| | | | | | |
|---|---|---|---|---|---|
| Big Lake | 1 | .. | 1 | .. | .... |
| Cat Creek | 2 | 2 | .. | .. | 185 |
| Kevin-Sunburst | 38 | 32 | 1 | 5 | 6,362 |
| Totals | 41 | 34 | 2 | 5 | 6,547 |

### COLORADO

| | | | | | |
|---|---|---|---|---|---|
| Fort Collins | 1 | 1 | .. | .. | 300 |

### NEW MEXICO

| | | | | | |
|---|---|---|---|---|---|
| Artesia | 2 | 2 | .. | .. | 475 |

## California Summary

| | | | | | |
|---|---|---|---|---|---|
| Athens-Rosecrans | 28 | 27 | .. | 1 | 13,758 |
| Baldwin Hills-Inglewood | 13 | 13 | .. | .. | 10,340 |
| Brea-Richfield | 4 | 4 | .. | .. | 2,608 |
| Dominguez | 4 | 4 | .. | .. | 3,299 |
| Elk Hills | 1 | 1 | .. | .. | 315 |
| Huntington Beach | 6 | 6 | .. | .. | 551 |
| La Mirada | 2 | .. | .. | 2 | 590 |
| McKittrick | 1 | 1 | .. | .. | 175 |
| Long Beach | 9 | 9 | .. | .. | 2,181 |
| Midway | 6 | 6 | .. | .. | 6,170 |
| Montebello | 2 | 1 | .. | 1 | 200 |
| Newport-Costa Mesa | 2 | .. | .. | 2 | .... |
| Rideout Heights | 2 | .. | .. | 2 | .... |
| S. Kern River | 1 | .. | .. | 1 | .... |
| Sunset | 4 | 3 | .. | 1 | 610 |
| Torrance | 17 | 16 | .. | 1 | 2,441 |
| Ventura | 4 | 4 | .. | .. | 7,800 |
| Totals | 106 | 95 | .. | 11 | 51,038 |

## Oklahoma Summary

| Fields— | Barrels |
|---|---|
| Burbank | 1,625,100 |
| Tonkawa | 1,503,960 |
| Bristow | 1,304,700 |
| Cromwell | 860,310 |
| Osage (outside Burbank) | 1,031,100 |

| Fields— | Barrels |
|---|---|
| Okmulgee | 758,250 |
| Cushing | 644,050 |
| Braman | 596,310 |
| Gilcrease-Papoose | 357,360 |
| Hewitt | 476,400 |
| Garber | 810,250 |
| Wewoka | 324,900 |
| Otoe | 244,650 |
| Stroud | 133,010 |
| Salt Fork (Thomas) | 120,830 |
| Other fields | 3,170,610 |
| Totals | 13,961,790 |

## Oklahoma

| County— | Completions | Producers | Gas Wells | Failures | Initial Prod. |
|---|---|---|---|---|---|
| Bryan | 1 | .. | .. | 1 | .... |
| Carter | 18 | 12 | .. | 6 | 1,063 |
| Comanche | 1 | 1 | .. | .. | .... |
| Creek | 30 | 17 | 3 | 10 | 567 |
| Garfield | 20 | 12 | 2 | 6 | 13,862 |
| Garvin | 3 | 2 | .. | 1 | 100 |
| Grady | 4 | .. | 3 | 1 | .... |
| Hughes | 26 | 16 | 4 | 6 | 4,078 |
| Jefferson | 4 | 3 | .. | 1 | 165 |
| Kay | 24 | 19 | 2 | 3 | 29,305 |
| Kiowa | 1 | .. | .. | 1 | .... |
| Lincoln | 14 | 11 | .. | 3 | 6,177 |
| Logan | 1 | .. | .. | 1 | .... |
| Muskogee | 2 | .. | .. | 2 | .... |
| Noble | 3 | 2 | .. | 1 | 70 |
| Okfuskee | 6 | 3 | .. | 3 | 402 |
| Okmulgee | 50 | 24 | 6 | 20 | 4,025 |
| Osage | 69 | 39 | 6 | 24 | 5,847 |
| Pawnee | 15 | 8 | .. | 7 | 1,465 |
| Pottawatomie | 1 | 1 | .. | .. | 30 |
| Payne | 5 | 4 | .. | 1 | 865 |
| Pontotoc | 1 | .. | .. | 1 | .... |
| Seminole | 14 | 9 | .. | 5 | 2,232 |
| Stephens | 17 | 12 | 1 | 4 | 1,050 |
| Tillman | 3 | .. | .. | 3 | .... |
| Tulsa | 14 | 8 | 1 | 5 | 590 |
| Wagoner | 7 | 1 | .. | 6 | 25 |
| Totals | 354 | 204 | 28 | 122 | 71,918 |

## Louisiana

| Field— | Completions | Producers | Gas Wells | Failures | Init. Prod. | Monthly Prod. |
|---|---|---|---|---|---|---|
| Anse La Butte | .. | .. | .. | .. | .... | 660 |
| Bellevue | 2 | .. | .. | 2 | .... | 87,780 |
| Bull Bayou | .. | .. | .. | .. | .... | 121,830 |
| Caddo | 8 | 6 | 2 | .. | 170 | 317,730 |
| Cotton Valley | 6 | 6 | .. | .. | 575 | 342,780 |
| Edgerly | .. | .. | .. | .. | .... | 16,740 |
| Elm Grove | 2 | 2 | .. | .. | 65 | 16,050 |
| Evangeline | 3 | 3 | .. | .. | 165 | 24,130 |
| Haynesville | .. | .. | .. | .. | .... | 376,410 |
| Homer | .. | .. | .. | .. | .... | 190,380 |
| Lockport | 2 | 1 | .. | 1 | 2,500 | 46,050 |
| Monroe | 2 | .. | 2 | .. | .... | ..... |
| Sabine Parish | 1 | 1 | .. | .. | 3 | ..... |
| Spring Hill Gas Field | 1 | .. | 1 | .. | .... | ..... |
| Urania | 6 | 4 | .. | 2 | 160 | 2,355 |
| Vinton | 5 | 5 | .. | .. | 320 | 223,680 |
| Wildcats | 8 | .. | .. | 8 | .... | ..... |
| Totals | 46 | 28 | 5 | 13 | 3,958 | 1,766,575 |

## Arkansas

| | | | | | | |
|---|---|---|---|---|---|---|
| El Dorado | .. | .. | .. | .. | .... | 270,790 |
| Irma | 2 | 2 | .. | .. | 145 | 42,420 |
| Smackover | 140 | 87 | 20 | 33 | 31,070 | 6,309,000 |
| Stephens District | 2 | 2 | .. | .. | 32 | 54,000 |
| Wildcats | 12 | .. | .. | 12 | .... | ..... |
| Totals | 156 | 91 | 20 | 45 | 31,247 | 6,676,210 |

## Kansas Summary

| Fields— | Barrels |
|---|---|
| Greenwood County | 1,030,650 |
| Rainbow Bend | 295,710 |
| El Dorado | 459,750 |
| Elbing-Peabody | 166,500 |
| Augusta-Douglas | 88,800 |
| Blankenship | 114,000 |
| Florence-Covert | 57,060 |
| Other fields | 849,200 |
| Totals | 3,061,670 |


# How's This for Logic?

Tough as sole leather; hard as hell! More feet per bit, and more feet between redressings or your money back pronto. Write for prices.

WHEN YOUR steno addresses a thousand envelopes, it is not the finger stuff on the key board that takes the time. It's that business of taking one envelope out and inserting another.

When you drive a hundred miles without stopping it doesn't take long. But try stopping to change a tire and buy a drink and light a cigarette and inquire the way and pay toll at the bridge and water the radiator! Your oldest kid could beat you on a bicycle!

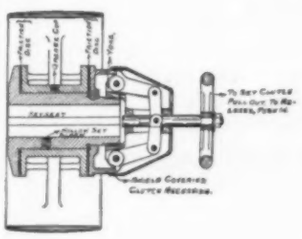
Same thing in drilling wells. Use a bit made of tin-can metal, change it every now and then, and you get nowhere fast.

But buck up a PELO Bit, lower away, romp on it for hours, and one shift won't need a micrometer to tell what the other shift does.

*GOOD PEOPLE TO DO BUSINESS WITH*

**Pelican Well Tool & Supply Co.**

**General Offices: Shreveport, La.**



# HAVANA

**DOUBLE GRIP FRICTION CLUTCH PULLEY**

Here is a strong, durable double grip friction clutch pulley that is easily attached (without aid of skilled mechanic) and has a reputation for service.

Notice in the illustration how strong Havana pulleys are made—they last a life time.

*Made To Fit All Kerosene and Gasoline Engines*

Write for prices and catalog. Don't buy until you learn more about the Havana. Sold by leading jobbers everywhere.

**HAVANA MANUFACTURING COMPANY**

111 N. PEAR STREET HAVANA, ILL.

## Kansas

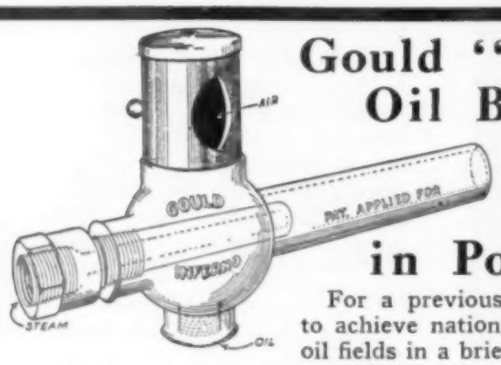
| County— | Completions | Producers | Gas Wells | Failures | Initial Prod. |
|---|---|---|---|---|---|
| Barton | 1 | .. | .. | 1 | .... |
| Butler | 11 | 7 | .. | 4 | 470 |
| Chase | 1 | 1 | .. | .. | 150 |
| Chautauqua | 1 | .. | .. | 1 | .... |
| Coffey | 1 | .. | .. | 1 | .... |
| Commanche | 1 | .. | .. | 1 | .... |
| Cowley | 23 | 17 | .. | 6 | 5,243 |
| Elk | 11 | 6 | 2 | 3 | 307 |
| Greenwood | 65 | 38 | 1 | 26 | 6,583 |
| Harvey | 1 | .. | .. | 1 | .... |
| Lyons | 2 | 1 | .. | 1 | 30 |
| McPherson | 1 | .. | .. | 1 | .... |
| Marion | 1 | 1 | .. | .. | 200 |
| Rooks | 1 | .. | .. | 1 | .... |
| Russell | 7 | 6 | .. | 1 | 1,025 |
| Sumner | 7 | 2 | .. | 5 | 150 |
| Woodson | 3 | 2 | .. | 1 | 50 |
| Totals | 138 | 81 | 3 | 54 | 14,208 |

## Texas Summary

| Field— | Completions | Producers | Gas Wells | Failures | Init. Prod. | Monthly Prod. |
|---|---|---|---|---|---|---|
| N. Texas | 289 | 176 | .. | 113 | 12,795 | 2,974,880 |
| Cent. and W. Texas | 105 | 60 | .. | 45 | 23,635 | 2,112,875 |
| E. Texas | 6 | .. | 6 | .. | .... | ..... |
| E. Cent. Texas | 23 | 10 | .. | 13 | 735 | 2,730,525 |
| Gulf Coast | 70 | 44 | 1 | 25 | 29,870 | 2,706,180 |
| Texas Mis. | 52 | 49 | 3 | .. | 16,975 | 1,327,800 |
| Totals | 545 | 339 | 10 | 196 | 84,010 | 11,852,260 |

### NORTH TEXAS

| County— | Completions | Producers | Gas Wells | Failures | Initial Prod. |
|---|---|---|---|---|---|
| Archer Co. | 111 | 71 | 40 | 4,415 | 1,096,425 |
| Electra | 34 | 24 | 10 | 855 | 521,550 |
| Burkburnett | 10 | 7 | 3 | 150 | 423,600 |
| Young Co. | 45 | 25 | 20 | 2,245 | 330,375 |


**Gould "Inferno" Oil Burners Steadily Growing in Popularity**

For a previously unknown product to achieve national recognition in the oil fields in a brief two years is an unusual record.

Yet that has been accomplished by Gould "Inferno" Oil Burners. Oil men demand them because the primary air feature that insures perfect combustion makes them cheapest and most efficient.

**Carried regularly by all Mid-Continent Dealers, and at all California stores of the California National Supply Co.**

*Write or Wire for Bulletin No. 2*

**GOULD BURNER COMPANY**

Main Office: Shreveport, La.



**Monongahela Tube Company**

INCORPORATED 1899

PITTSBURGH, PA.

MANUFACTURERS OF

ARMCO INGOT IRON

AND

GENUINE WROUGHT IRON

OIL WELL TUBING and LINE PIPE

ALSO

ARMCO INGOT IRON
KNOBBLED CHARCOAL IRON
SOFT OPEN HEARTH STEEL

BOILER TUBES


| Field— | Completions | Producers | Failures | Init. Prod. | Monthly Prod. |
|---|---|---|---|---|---|
| So. Vernon | 21 | 20 | 1 | 3,220 | 262,725 |
| K-M-A and Iowa Park | 26 | 17 | 9 | 725 | 176,100 |
| Panhandle Dist. | 8 | 8 | .. | *1,090 | 129,115 |
| Montague Co. | 4 | 2 | 2 | 55 | 11,250 |
| Petrolia-Clay Co. | 5 | 0 | 5 | .... | 10,950 |
| Baylor Co. | 2 | 1 | 1 | 40 | 6,265 |
| Throckmorton Co. | .. | .. | .. | .... | 5,625 |
| Jack County. | .. | .. | .. | .... | 900 |
| Wildcats | 23 | 1 | 22 | † | ..... |
| Totals | 289 | 176 | 113 | 12,795 | 2,974,880 |

*Includes 50,000,000 ft. gas.
†Includes 15,000,000 ft. gas.

### CENTRAL WEST TEXAS

| Field— | Completions | Producers | Failures | Init. Prod. | Monthly Prod. |
|---|---|---|---|---|---|
| Big Lake-Reagan Co. | 11 | 11 | .. | 19,890 | 1,022,210 |
| Stephens Co. | 21 | 7 | 14 | *660 | 413,850 |
| Eastland Co. | 15 | 10 | 5 | †755 | 295,390 |
| Moran-Shackleford Co. | 13 | 6 | 7 | ‡240 | 96,865 |
| Callahan Co. | 12 | 8 | 4 | 705 | 90,565 |
| Brown Co. | 16 | 9 | 7 | §720 | 89,440 |
| Mitchell Co. | 6 | 6 | .. | 615 | 76,425 |
| Palo Pinto Co. | 2 | 1 | 1 | 15 | 17,965 |
| Coleman County. | 1 | 1 | .. | 10 | 7,465 |
| Thrall-Williamson Co. | .. | .. | .. | .... | 1,500 |
| Scurry County. | 1 | 1 | .. | 25 | 1,200 |
| Wildcats | 7 | .. | 7 | .... | ..... |
| Totals | 105 | 60 | 45 | 23,635 | 2,112,875 |

*Includes 20,000,000 ft gas.
†Includes 15,500,000 ft. gas.
‡Includes 1,500,000 ft. gas.
§Includes 9,500,000 ft. gas.

| | | | | | |
|---|---|---|---|---|---|
| Wildcats | 7 | .. | 7 | .... | ..... |

### EAST TEXAS

| | | | | | |
|---|---|---|---|---|---|
| Waskom Gas Field | 5 | .. | 5 | .. | .. |
| Panola Gas Field | 1 | .. | 1 | .. | .. |
| Totals | 6 | .. | 6 | .. | .. |

### EAST CENTRAL TEXAS

| | | | | | |
|---|---|---|---|---|---|
| Corsicana-Powell. | 13 | 9 | 4 | 345 | 1,331,210 |
| Wortham | .. | .. | .. | .... | 699,000 |
| Mexia | .. | .. | .. | .... | 552,750 |
| Richland | 2 | .. | 2 | .... | 109,915 |
| Currie | 1 | 1 | .. | 390 | 37,650 |
| Wildcats | 7 | 7 | .. | .... | ..... |
| Totals | 23 | 10 | 13 | 735 | 2,730,525 |

### GULF COAST

| Field— | Completions | Producers | Gas Wells | Failures | Init. Prod. | Monthly Prod. |
|---|---|---|---|---|---|---|
| Barbers Hill | .. | .. | .. | .. | .... | 3,810 |
| Batson | 1 | 1 | .. | .. | 25 | 42,450 |
| Blue Ridge | .. | .. | .. | .. | .... | 19,830 |
| Boling | .. | .. | .. | .. | .... | ..... |
| Damon M'nd | .. | .. | .. | .. | .... | 34,290 |
| Dayton | .. | .. | .. | .. | .... | 1,560 |
| Goose Creek | 7 | 6 | .. | 1 | 2,783 | 282,180 |
| High Island | 1 | .. | .. | 1 | .... | 12,480 |
| Hull | 12 | 12 | .. | .. | 9,520 | 659,610 |
| Humble | .. | .. | .. | .. | .... | 135,540 |
| Long Point | .. | .. | .. | .. | .... | ..... |
| Markham | .. | .. | .. | .. | .... | 2,340 |
| Nacogdoches | .. | .. | .. | .. | .... | 930 |
| Orange | 13 | 11 | .. | 2 | 10,914 | 466,680 |
| Pierce Junct. | 1 | 1 | .. | .. | 2,000 | 16,230 |
| Big Creek | 5 | 1 | .. | 4 | 100 | 28,290 |
| Saratoga | 4 | 1 | .. | 3 | 300 | 47,160 |
| Spindletop | 3 | 3 | .. | .. | 250 | 32,880 |
| S. Liberty | 8 | 6 | .. | 2 | 3,962 | 452,790 |
| Sour Lake | 3 | 2 | .. | 1 | 16 | 127,680 |
| W. Columbia | 1 | .. | 1 | .. | .... | 339,450 |
| Wildcats | 11 | .. | .. | 11 | .... | ..... |
| Totals | 70 | 44 | 1 | 25 | 29,870 | 2,706,180 |

### TEXAS MISCELLANEOUS

| | | | | | | |
|---|---|---|---|---|---|---|
| Luling | 1 | 1 | .. | .. | 300 | 692,730 |
| Mirando | 26 | 23 | 3 | .. | 3,905 | 187,110 |
| Lytton Springs | 24 | 24 | .. | .. | 12,750 | 356,520 |
| Somerset | .. | .. | .. | .. | .... | 76,290 |
| Misc. S. Texas | .. | .. | .. | .. | .... | 15,150 |
| Wildcats | 1 | 1 | .. | .. | 20 | ..... |
| Totals | 52 | 49 | 3 | .. | 16,975 | 1,327,800 |

## Supply Dealer Is Banker For Hazardous Industry

(Continued from page 38.)

new equipment and converting its warehouses into shops for repairing old equipment and storing it for distribution and further use.

In serving the oil industry by this fashion, the supply companies are to an extent bankers for the industry. For any producer of standing can have credit at the supply store. And this goes on from month to month in some instances until a lease gets on the right side of the ledger. It is no secret that supply companies have granted in sums and over periods which a banker would never have considered.

One or two oil companies of more than ordinary size and success owe their existence to the liberality of supply companies in granting credit.

Of course there is another side to this, for executives of supply companies admit of losses that are staggering. The personal risk is no greater in oil credits than in any line of business. The risk of drilling oil wells presents another picture. Still the supply companies go on, playing banker to an industry that in its nature is hazardous.

Now here is a peculiar angle to the business the supply companies have built up. It may be said that it has become too good. At least the Oil Country Buyers Group of the National Purchasing Agents Association is seeking to have service restricted in the older oil fields, in an effort to reduce the cost of oil well equipment.

A session is to be held during the International Petroleum Exposition and the question of warehousing will come up. It is the object of the buyers to ascertain the feasibility of reducing the number of local supply stores in the older oil field districts, in the hope that costs of equipment will be reduced.

Improved transportation is given as one cause for making this possible. The buyers say supply stores were located in oil fields when transportation was poor, when equipment was needed hurriedly, necessitating a reserve supply. But with a field drilled and its only needs those for pumping wells, buyers wonder if supply stores cannot be moved, letting producers depend on rail and truck transportation to get equipment to them from central warehouses instead of local supply stores.

That, however, is just a side issue. Local supply stores may be reduced by half. Still the supply companies will go on functioning as they have in the past, devoting their energies to a single purpose, giving credit liberally and taking the losses along with the profits.

It is impossible to imagine the oil industry without the supply business. In fact the elimination of the supply companies would force the oil industry to work by methods so strange that it would be another type of industry.

# Have you tried this?

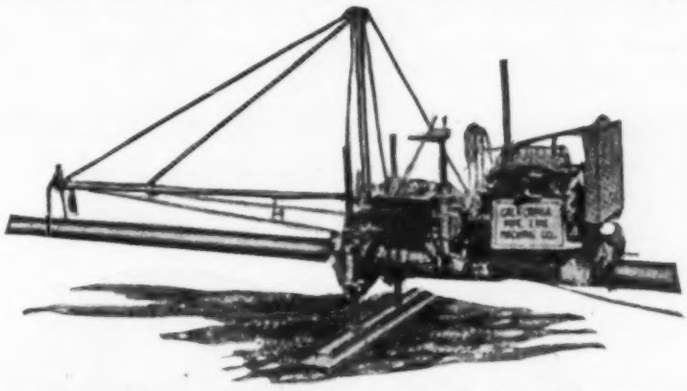
This is the HOUGH Brass Polished Rod Liner—well known in the Eastern oil fields. Unit consists of brass tube, hexagon top, brass stuffing box and a cast iron grip. Brass tube works through brass stuffing box, slips over regular polished rod, regardless of the condition of old polished rod and is adjusted and held in place by the grip stuffing box on upper end. Leakage, even when pressure prevails, is impossible with this HOUGH unit. Carried in stock by all good dealers—try one out in your field.

**The Charles N. Hough Mfg. Company**

Franklin, Pennsylvania

*Products that cut down your underground overhead*

# COMPLETING THE BIG LAKE JOB IN TEXAS



The CALIFORNIA PIPE LINE MACHINE was used in constructing the Humble Pipe Line Company's new line from the Big Lake field in Reagan County, Texas, to the Gulf.

Not only the Humble but the Gulf, Magnolia, Standard Oil and other large pipe line companies have found that the CALIFORNIA PIPE LINE MACHINE cuts down construction costs and lays a better line.

The MACHINE travels on the pipe, screwing or joining the pipe as it goes.

Full and complete information will be furnished on request

For Sale or Lease

**CALIFORNIA PIPE LINE MACHINE COMPANY**

Fourteenth and Chestnut Streets Kansas City, Mo.

# EXPERT WELL SHOOTING

Well shooting is a highly specialized craft and, due to the great depth of many of the wells now are being drilled, is becoming increasingly difficult, requiring the services of experienced shooters.

Problems continually confront the well shooter and they are solved only by his own experience and ingenuity and the co-operation of the fellow experts in his organization. Some of these men have shot in many fields and may have met the same problems before. Anyhow the customer's well is successfully shot and he perhaps never knew there was a problem. That is Eastern Service for it is an organization of picked men—Experts. The time its shooters have spent in this difficult and hazardous work averages more than fifteen years, sufficient evidence of their skill and care.

*Remember these facts when you need that next shot*

**THE EASTERN TORPEDO OF OHIO CO.**

Palace Bldg.
Tulsa, Okla.

# OIL FIELD LUMBER

SPECIALIZING IN OIL OPERATORS NEEDS

**96 ft. to 122 ft. DERRICKS**
**STANDARD RIGS**
FOR BOTH
**ROTARY and CABLE TOOL Drilling**
**STEEL DERRICK FOUNDATIONS**
**TANK COVERS FOR STEEL AND EARTHEN STORAGE**
**ENGINE FOUNDATIONS**
**LARGE TIMBERS IN PINE, FIR AND OAK**
**Stocks in HOUSTON, GOOSE CREEK, SOUTH LIBERTY (In the Field) and at SAWMILLS**

Special Quick Service in Texas and Oklahoma

**Robertson-MacDonald Lumber Co.**

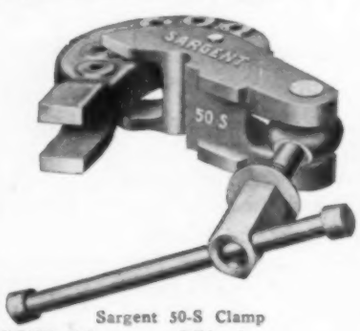
General Offices: 215 Humble Bldg., Houston, Texas

We will furnish on request Specifications, compiled by high grade, experienced rig builders, of derricks, standard rigs and oil field woodwork construction in general use in the various producing fields.

# The MOST POWERFUL and ECONOMICAL GRIP

On the Market

Sargent 50-F Grip




Sargent 50-S Clamp

**A Sargent Grip Will Never Slip!**

— All Steel — Light — Easy to Handle —

LONG HINGED LEVER TAKES A SHORT, POWERFUL BITE ON POLISH ROD

*For further information see*

**SARGENT ENGINEERING CORP.**

Box 95
Huntington Park, California

214 W. First Street,
Tulsa, Okla.


## Waite Phillips Company Busy in Archer County

Wichita Falls, Texas.—More than one dozen rotary rigs have been kept busy by the Waite Phillips Company of Tulsa during the past month on its leases in Archer County to build up light oil production in Texas. This company has been leading all other operators in Archer County in volume of development work since the reported sale of stock to Blair & Company, and at the close of last week had 18 drilling tests and locations on practically proven acreage, of which four tests are on the oil sand pay. This drilling has been scattered over three separate pools discovered in the county by the Waite Phillips Company. Two new locations were made last week on L. F. Wilson lease "A" on the strength of a richly saturated oil sand core being taken in the first test on this lease, which is southwest of the main L. F. Wilson production.

Barkley-Meadows et al's M. Brom 2, section 1582, extended the Harmel field in Archer County one location to the northwest last week with an initial production of 485 barrels from regular pay at 1368-91 feet. The initial output of this well was aided by the use of the swab. It is one of the best producers for the field in many weeks, and logged the top of the sand somewhat higher than usual.

Town lot drilling at Olney in upper Young County has not moved along at the pace that was expected when J. C. Allen and others brought in a 50 barrel pumper on the northeast edge of town two weeks ago at 1019-36 feet, owing to restictions by the Railroad Commission on spacing locations. An effort is being made by the representative of the commission to have locations 300 feet apart, and operators have experienced great difficulty in getting sufficient lot owners to pool their holdings and agree on a lease bonus.

## Correction Notice

In the advertisement of the Oklahoma Portland Cement Company, Oklahoma City, and Tulsa, Oklahoma, appearing on page 11 of this issue it is stated that O. K. Super Oil-Well Cement obtains practically its full strength in (7) hours. This is an error and should read: O. K. Super Oil-Well Cement obtains practically its full strength in (72) hours.

---

**M. G. Caldwell**, purchasing agent for the Atlantic Oil Producing Company with headquarters at Dallas, died September 22, after a brief illness at his home in Dallas, and was buried on the following Friday morning. Caldwell was 39 years old, and had been with Atlantic for nearly 20 years, having started with the company as a clerk. He has been the purchasing agent at Dallas for about eight years.

### Many Factors Involved In Pumping Deep Wells

(Continued from page 66)

should happen to enter the barrel, then on account of the long stroke the gas will be compressed to a high pressure, sufficiently high to lift the ball of the traveling valve against the fluid pressure, giving the gas an opportunity to escape through the tubing.

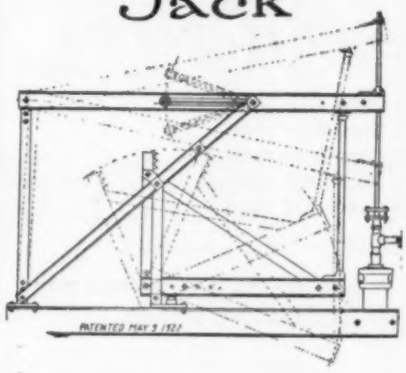
5. There is less chance for the oil to cut, due to a decrease in the churning action which is set up when the traveling valve or the plunger is hitting the fluid.

6. Smaller diameter rods and tubing may be used where the amount of fluid delivered by a certain well is limited. The long-stroke pumping unit is especially of advantage where large quantities of fluid, say from 1000 barrels daily or upward, have to be handled. In many cases it will prove successful in places where the amount of fluid was so great that the only way to raise it was by means of blowing it with air, which is a most expensive way of bringing the oil to the surface. One case where the long-stroke pumping unit was used with considerable advantage has come to the personal attention of the writer, and has been described in a previous issue of The OIL WEEKLY. The installation is shown in Fig. 2, and is operated by The Texas Company at Humble, Texas. The well was 2200 feet, and a 3¼-inch working barrel was used at the end of a string of 4½-inch Cal. D. B. X. casing for tubing. The diameter of the rods was ⅞ inch. The actual length of the stroke of the jack was 120 inches, or 10 feet. The loss of stroke due to the stretching of the rods and contraction of the tubing was 17 inches, giving a travel of 103 inches of the plunger in the working barrel. Displacement of the working barrel at 10 r. p. m. was 1688 barrels in 24 hours, and the actual amount of fluid delivered 1275 barrels, showing an efficiency of 75 per cent. Before the long-stroke pumping unit was installed, the well had been blown with air. On that account the oil was cutting badly, and 50 barrels of fuel oil were required per day for generating steam for treating purposes. In addition to this, 25 barrels of fuel oil were used to run the air compressor. After the pumping unit was installed, the production increased about 40 per cent, the oil ceased cutting, and instead of burning 75 barrels of oil under the boilers, only one and a half barrels of oil were required to run the oil engine that drives the pumping jack. In this case the installation paid for itself in a very short time.

In closing this article the writer would say that the most ideal means of pumping a well would be where the prime mover could be located directly over the pump at the bottom of the well, using electricity or hydraulic pressure. Numerous attempts have been made in that direction already, but such machines get easily out of


**A Straight Up-and-Down Pumping Stroke**

The Jensen Straight Lift Jack



**The Jensen Jack**

gives this and at the same time lessens wear on the polish rod and stuffing box.

Increased production naturally results while operating costs are reduced.

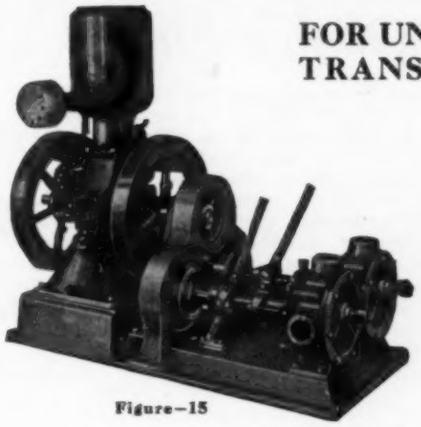
Jack sold complete or only the frame, which can be installed on any well giving a straight-lift jack.

**The Straight Lift makes a four-foot stroke practical. Made in No. 2 and No. 3 sizes.**

**Jensen Bros. Mfg. Co.**
**Nowata, Oklahoma**

**Viking Twin Oil Pumping Units**

**FOR UNLOADING AND TRANSFER SERVICE**



Figure—15

**No. 2 Twin Outfit complete with 3 H. P. Gasoline Engine.**

**Capacity each pump 90 Gallons per minute.**

Manufactured by
**VIKING PUMP CO.**
Cedar Falls, Iowa

Sold By
**Southern Engine & Pump Company**
HOUSTON, TEXAS

DEWITT T. RING
Geologist
Armstrong Bldg. El Dorado, Ark.

W. ARMSTRONG PRICE
Geologist
2801 Main St. Houston, Texas
Telephone: Hadley 8839.

JOSEPH L. ADLER
Consulting Geologist
1115 First National Bank Bldg.
Denver, Colorado.

PATENTS
Patents Obtained, Trade Marks, Patent Causes
JESSE R. STONE
Formerly Assistant Examiner
United States Patent Office
Andrews, Streetman, Logue & Mobley
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100,000 ft. 2-inch used line pipe.
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3,800 ft 6¼-inch 26 pound used casing.

We buy abandoned pipe lines and oil wells. If you have any to sell, communicate with us before you dispose of them.

**Keystone Pipe & Supply Company**

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## *Orifice Fitting*

Fitting complete takes the place of all the old "hookups." There is a remarkable saving in meter installation. The hazard attending a plate change in the old "hookup" has been entirely eliminated. The facility with which the plate is removed permits and encourages frequent inspection and micrometer checking of the orifice diameter. Oil and sediment can be prevented from stacking on the stream side of the orifice plate. The gas passage is machined to the diameter used in establishing the coefficient.

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HOUSTON, TEXAS


order or are lost beyond recovery in case the well sands up.

Much room is left for improvement of the surface equipment of pumping wells—improvements that lay within reach of the present-day technique.

## Running Tank Vent Pipes At Angle Effects Economy

A SAVING of pipe has been effected by the Sinclair Refining Company through adoption of an angle construction for storage tank vents. The vents also eliminate danger of moisture collecting at underground points to hinder the expulsion of petroleum vapors from the tank. These vents have been installed on new tankage at Sinco on the Houston Ship Channel.

The vents leave the tank roof near

Tank vents at angle

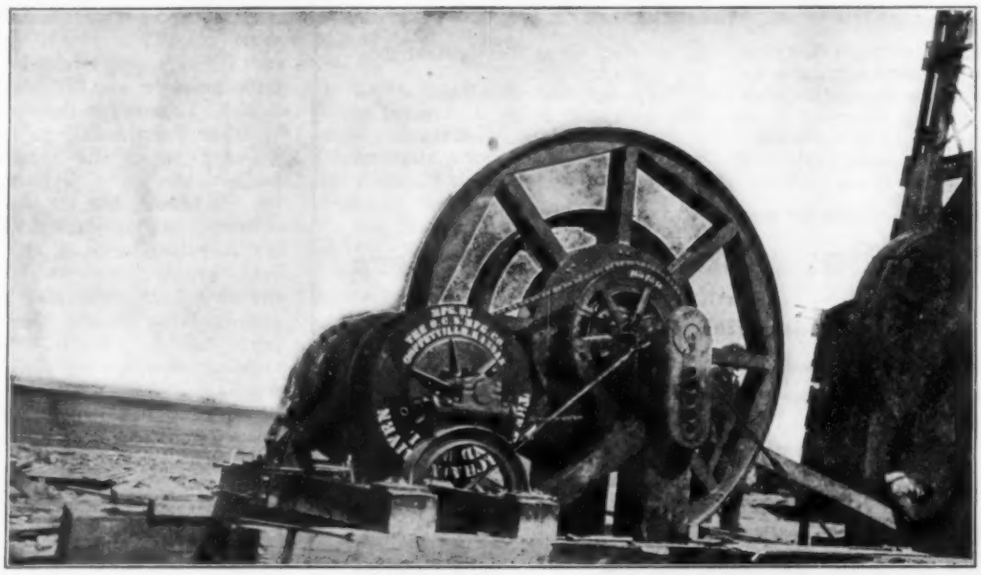
its edge, sloping at about 45 degrees and terminating just inside the fire wall, some three feet from the ground. Flanged T's are installed at the ends of the vents and the wire gauze for fire protection is installed in these flanged connections.

Less pipe is required for this type of vent, when compared with the common construction, where the pipe follows the tank wall outside, having an ell underground and passing to a point outside the fire wall, where another ell turns the vent upward allowing it to terminate at the desired height. The angle vent also eliminates use of the ell connections of the underground vent.

Since the angle vent passes below the surface, moisture can not collect at some low point, and remain to hinder the expulsion of petroleum vapor, in case of fire or explosion.

Other than the change in installation, the vents are similar to the underground constructions. Any desired

# THE PIONEER



## The S. & B. was the *First* Successful

## Chain Driven Sand Reel

## and *Today* There

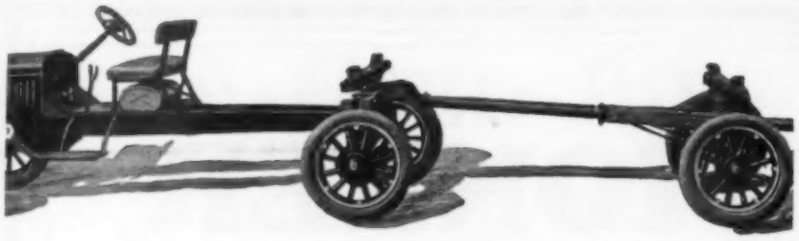
is no other mechanism made that will consistently handle any size Bailer in any depth hole as easily, as fast, as economically, and with as little wear and tear and little fuel and power consumption as the S. & B. Chain Driven Sand Reel.

*At Your Supply Store*

Manufactured by

THE OIL COUNTRY SPECIALTIES MFG. CO.

**Coffeyville, Kansas**



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F. O. B. Mansfield, La.,

Nabors Trailers, made with or without springs, with all parts interchangeable, are doing the work of trailers costing two and three times their price. Yet their sturdiness, durability, and usefulness in all industrial fields are constantly proving them the lightest pulling trailers built.

They embody principles of design in construction not found in any other trailers. Nabors Trailers "Trail" without the slightest zig-zag motion on the road.

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**W. C. Nabors Co., Manufacturers**

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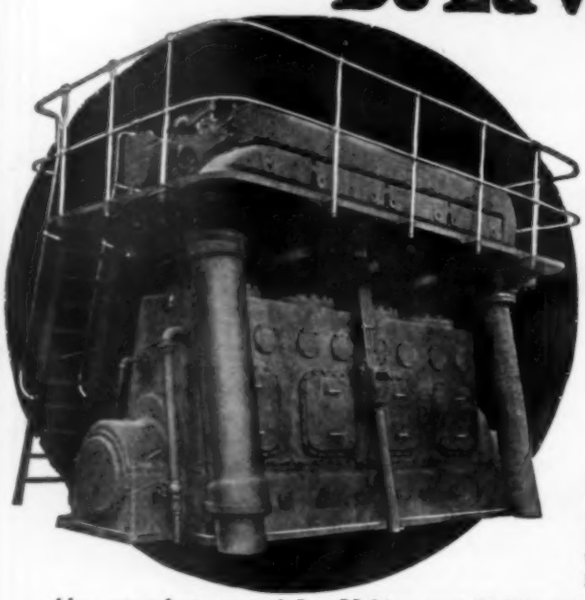
**De La Vergne**



**De La Vergne Solid Injection Diesel Engine**

Fuel consumption less than .45 lbs. per B. h. p. hour. One gallon of lubricating oil for 7000 rated h. p. hours in existing plants. No air compressor. Forced feed lubrication.

*Write for Bulletins*

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Also manufacturers of Ice Making and Refrigerating Machines

valve can be used where it leaves the tank. The gauze arrangement at the outer end can be as desired. The angle type, also can be made to terminate outside the fire wall, if desired.

Supports for the vents installed by the Sinclair Company have been made from small pipe, cut at required lengths. Braces for these have been cut from iron.

Vents of the angle type afford ample opportunity for the use of junk pipe and iron. Either line pipe or well casing can be used for the vents, as defective places can be cut away and short lengths used in coupling the vent. The supports can be made from junk pipe or smaller sizes, 2 and 3 inches. Braces for these supports can be taken from junk iron strips.

Couplings can be used successfully for both vents and supports, with bolts for the braces, but the vents offer excellent opportunity for the use of welding in salvaging junk materials. The vents proper can be welded not only for the joints but also in repairing pitted places on the pipe. The supports can be constructed wholly by welding, the braces being placed by welding.

### Correction Notice

In the advertisement of J. H. McEvoy & Co., page 27 Sepia Section, the line above cut of different meshes should read "Illustration of Different Meshes of 'McEvoy Wireless' Well Strainer."

Under the lower row of these illustrations of meshes should appear the following: "No. 30, No. 40, No. 50, No. 60, No. 80, No. 100."

"Brother Johnson," said Parson White, "Ah'd lak to git yo' to come to chu'ch."

"Why, Parson," exclaimed Mr. Johnson, shocked, "dey ain' no need fo' me to come to chu'ch. Yo'-all done converted me las' Augus'."

"Bill's death was a sad affair, was it not?"

"Yes, how did he die?"

"He walked himself to death trying to stay in front of an oscillating fan."

—Independent Topics.

William H. Foster W. A. Reiter

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440 Ouray Bldg. Washington, D. C.

# LETTERS OF Paul Peebles P.S.G.

Shreveport, La., September 19, 1925
Hon. Paul Peebles, P. S. G.,
Houston, Texas
Dear Paul:

We enclose herewith two complimentary tickets for the State Fair.

In addition to our desire to acknowledge the honor you are about to confer upon us, it has been suggested that the free tickets might prevent a "touching scene" between the widow and yourself.

Yours very truly,
Mid-Continent Oil and Gas Association
Jos. B. Elam, Secretary, Louisiana-Arkansas Division.
JBE:ZAB

---

Hon. Paul Peebles, P. S. G.,
Houston, Texas
Dear Paul:

I have learned from the columns of The OIL WEEKLY that you have accepted an invitation to participate in a big shindig which the oil men of Louisiana and Arkansas have arranged for Oil and Gas Industry Day, Louisiana State Fair, Shreveport, October 31, 1925.

While in Shreveport we want you to be the guest of the Washington Hotel. Our hotel is new; and we are making a strong bid for the patronage of your colleagues in the oil business. We plan to utilize the occasion of Oil and Gas Industry Day, to establish the Washington Hotel as oil headquarters of the Louisiana - Arkansas territory. We have arranged a big ball for the oil men and their ladies on that day, and we feel that if you, a prominent leader of the oil industry, will establish your headquarters with us, our success will be assured.

Now Paul, we realize that your personal following is great, and we are prepared to offer you all of the facilities of the finest hotel in the South, including committee rooms where you may receive deputations from your supporters. You may greet the admiring populace from our balconies, and your presence alone will assure the success of our tremendous celebration.

Very truly yours,
E. K. Smith,
President.

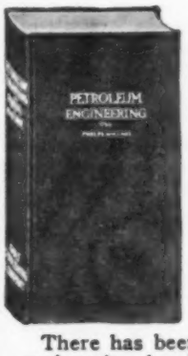
---

Mr. W. r. scott, pres. reo bravo oil co
& also of most of the 17 rrs whitch meets the see at
Huston, texas
deer bill:

I am händin yu herewith sum coppys of letters whitch I hav rec'd from shreesport whitch yu hav proberly herd of on account of it is on 1 of yore ralerodes & whitch I am sendin yu so that I will not hav 2 waste no time explainin 2 yu what I meen about what I am goin 2 rite yu.

it is just like this bill. these fellers up 2 shreesport wants me 2 cum up their pretty bad & sinct it aint goin 2 cost me nuthin after I git there all that is between me & goin is the rr fare. I am pretty shure that yu hav got sum passes handy & cood send me one in case yu was a mine 2. it wood be werth a hole lot 2 yore rr if it was noed that I was a patronizer of it & it cood easy be made the offishul route of the oil men whitch has 2 go from huston 2 shreesport & vise verser. sumtimes they cum 2 huston when they dont hav 2 & then of corse they hav 2 go back. but that aint neether hear nor there. the main ? is do I git the pass?

now bill if it is ennything whitch makes it obligationatory for a man 2

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**PETROLEUM ENGINEERING**

—By—
ROBERT WILLIAM PHELPS
and
FRANCIS WILBUR LAKE
*Petroleum Engineers*

**There has been a long felt want for a petroleum engineering handbook. This book is essentially in two parts, i. e., text and tables. The text deals with the theories of geology and petroleum geology in their application to the exploration, development and production of petroleum. Operating technology, appraisal and economics are also covered.**

**Half of the book is devoted to schedules for reports; tables covering chemical elements, petroleum compounds, geology, rocks, rock minerals, properties of petroleum, porosity, saturation, extraction percents, pipes and casing, tanks (capacities), conversion factors, and mathematical data such as algebra, trigonometry, and six place logs. Twenty-seven useful alignment charts for rapid computations of oil field problems.**

*561 pages, fabrikoid, postpaid $5.00*

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**THE GULF PUBLISHING CO.**
**P. O. BOX 1307 HOUSTON, TEXAS**

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**Boiler Tubes**

**Charcoal Iron**
for bad water conditions—

**Lapweld Steel**
for good water conditions—

**For long tube life.**

**The Tyler Tube & Pipe Co.**
Washington, Pa.

Texas Stock—Harrisburg Pipe and Pipe Bending Co.
Houston, Texas

NATIONAL Drill Pipe
NATIONAL Rotary Pipe
NATIONAL California Casing
NATIONAL Tubing
NATIONAL Line Pipe

WALWORTH PIPE FITTINGS
WALWORTH VALVES, ETC.
AMERICAN WIRE LINES

Big stock of Oil Field Supplies carried in our warehouses for your convenience. Send us your orders or write today for prices and information.

*We Ship Quick"*

**PEDEN IRON & STEEL CO.**

Houston San Antonio Mexia Shreveport

**LARGE DIVIDENDS**

Most people think twenty-five percent good returns—and they are right.

M & V WELDED TANKS, being verily vapor proof save the producer a higher percentage of their cost annually.

No leakage, seepage or evaporation.

The crude going from C. H. to P. L. without loss of oil or gravity.

M & V SIGHT FLOW SEPARATORS

M & V WELDED TANKS

THE LAST WORD IN LEASE TANKAGE

*WRITE FOR PRICES AND LITERATURE*

**M & V Tank Company**

"Conservation Tankage"
WICHITA FALLS, TEXAS

git a pass he will hav 2 work for the rr I wood not mine havin a job with yu in the oil co. department as a geeologist & if yu do not need no geeologist full time I wood be willin 2 hire out just for this trip.

what I meen is that I cood giv yu a opinyun on the rite away whilst I am ridin over it. I will take along mi new patented speedometer seesmoregraft oil finder whitch cuts up whenever it is where oil is at, or I meen when oil is under the ground. I cood ride on the back end of the trane & whenever it shows oil, well I can just count the tellygraft poles 2 the next mile post & tell yu esactly where yu cood fine oil on your rite away.

now I aint tryin 2 git john suman's job or nuthing like that because I am a good frend 2 john & even ritten a book for him onest & hav hope him out in other ways. but john is a pretty busy man & besides he wood rether ride on sum of yore fine tranes than 2 go on the rabbit so it aint nuthin agenst him if he aint paid the shreesport line mutch attenshun & I gess he thinks it is got oil at both ends & a couple three plases in the middle so he will not bother about it unlessen I go out there & find him sum plases 2 look. he can check mi work after I hav made mi report so yu will not hav 2 take mi werd for it unlessen yu want 2. but yu no yore ownself that it is plenty of room for sum oil feelds along that rr. now dont misunderstand me thaat I think that john aint done all he cood about findin oil on that rr because I aint nockin him.

Now bill I wood not be astin yu for no pass if it wood cost yu ennything, but I no that it wont. yore trane will be goin ennyhow & me bein on it will not make no difrents either 1 way or the other because it is always room on there for 1 more & besides if I aint got no pass 2 ride inside well I am liabul 2 be ridin the blind or either underneeth because I hav bin 2 shreesport more times than I hav pade rr fare & I will admit that yore rode is the best way 2 shreesport because it is the shortest.

I want 2 go up on friday nite before the day whitch they menshun so it aint no really hurry about sending me the pass, but I wisht yu wood send it rite away so that I can tell them fellers what 2 especk about me arrivin. they will want 2 meet me with a band & if I am not goin 2 ride on the cushions I will hav 2 werk out sum kind of a skeem to slip in ahed of time & then get cleened up & slip in with the peepul cummin off of the train. I gess yu no what I meen.

thankin yu in advanct for yore kind considerashun & espeshul for the pass, I am, yores trewly,

paul peebles, psg & rite away inspeckshun expert.

ps if it is all the saim yu can make the pass for paul peebles & 1 moar on account of I do not no if I can slip off from the widder yet or not. pp.

# Gulf Refining Company

OKLAHOMA
TEXAS
LOUISIANA

*Refiners of* PETROLEUM

GASOLINE
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GAS OILS
PARAFFINE WAX
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LUBRICATING OILS
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## Red and Pale Paraffine Oils

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Galveston, Texas
Providence, R. I.
Jacksonville, Fla.
Charleston, S. C.

# Be Careful In The Selection Of Lubricants For Your Motorized Equipment

**Passenger cars and trucks of different makes vary considerably in type and design.**

**Be sure that you understand: (1). The type of lubricating system used, which determines the method of feeding the oil. (2). The type of cooling system used, this factor having more or less effect on the operating temperatures of various parts of the motor.**

**The proper lubrication of motor equipment does not mean only the lubrication of the engine cylinders—it means the complete lubrication of all of the moving parts of the motor. Much harm can result from the use of too heavy an oil in a pressure system not designed to handle it—also where the "splash" system is used, the oil must not only flow easily, but must atomize readily so as to reach certain bearings which can be lubricated only by a fine mist.**

Your passenger cars and your trucks are designed to give you many years of service—if they are properly lubricated.

Humble Motor Oils are the result of years of experience in lubricating internal combustion engines. The recommendations of Humble lubricating engineers are an added factor of safety. Whether you operate one passenger car and truck, or a whole fleet of motorized equipment, it will pay you to learn more about Humble Oils.

HUMBLE OIL & REFINING CO. HUMBLE OILS HOUSTON, TEXAS

*Write for samples and prices*

## Humble Oil & Refining Company
**Houston, Texas**

Producers - Pipe Lines
Refiners - Marketers

***There is a Humble Oil which is specially prepared to meet every bearing need in your plant, your trucks, or in your automobile.***

# Humble Oil & Refining Co.
## HOUSTON, TEXAS

**Producers ~ Pipe Lines ~ Refiners ~ Marketers**

# SQUEAKS FROM THE BULL WHEEL

When you and I were seventeen
I was the same age as you,
But now that we more years have seen
You'll not admit that true.
'Tis twenty years since I was king
And you my wonderful queen;
This you'll recall, but still this fall
You say you're seventeen.

---

A business man had gone to a fortune teller and among other things he had been told that he was to meet with immediate financial reverses. This seemed to cheer him very much. When one of his friends told him he couldn't see anything very joyous in that, the business man said that he could, and so would his friend, if he knew anything about his finances, for I'll say right now, that if they don't reverse pretty soon I'll be busted.—Forbes.

---

"Huh." he snorted, after reading the account of the wedding. "Always the 'blushing bride'! That's the bunk!"

"Oh, no, it isn't," replied the Mrs. sweetly. "Just consider the kind of men women have to marry."—The American Legion Weekly.

---

Whither away, stranger?" What wouldst?" cheerioed St. Peter as he leaned over the pearly gates.

"Gosh, let me in," muttered the wandering soul of convict No. 999, just released from the electric chair, "I just had the shock of my life."—Iowa Independent Topics.

---

A furniture salesman in a Michigan store was waiting on a woman customer for lineoleum. He had shown her every piece in stock. "I'm afraid, madam," he said, "that we haven't just the piece you are looking for, but we could get more from the factory."

"Well, perhaps you had better," she replied. "You see, I want something of a neater pattern and quite small—just a little square for my bird cage."—Hardware Age.

"Bill, who does the most good, Henry Ford or Billy Sunday?"

"That's easy! Henry Ford!"

"How's that?"

"He has shaken the devil out of more people than Billy Sunday ever can."

---

"He says he will be miserable unless I marry him," said the pensive girl.

"You must decide for yourself," answered Miss Cayenne, "whether he is a devoted lover or merely one of those people who can't be happy unless they are having their own way."—Washington Star.

---

Ermyntrude—"They tell me you love music."

Bill—"Yes, but never mind; keep on playing."—The Sydney Bulletin.

---

"If Mr. Jones calls for his account, I'm out, John."

"Yes, sir."

"And, John, don't be working when he comes in, or he won't believe you."

---

A colored agent was summoned before the Insurance Commissioner.

"Don't you know," said the Commissioner, "that you can't sell life insurance without a state license?"

"Boss," said the darky, "You suah said a moufful. I knowed I couldn't sell it, but Ah didn't know the reason."—Forbes.

---

In a certain suburb there is a cottage the door of which must be raised a little to be opened, and for this purpose a hatchet is generally used. One night a knock came at the door and a youngster was sent to see who was there.

"Who is it?" inquired the boy.

"It's me," said a voice outside.

The youngster, recognizing the voice shouted back: "It's Mrs. Murphy; get the hatchet."

Mrs. Murphy didn't wait.—Pittsburgh Chronicle Telegraph.

THE VILLAGE BLACKSMITH
(1925 Model)

Under an ad for gasoline
The village smithy stands;
He's the agent for the Jinx machine
And several other brands.
He hasn't shod a horse for years,
For fear he'd soil his hands.
He wears a gold watch on his wrist,
A pearl pin in his tie,
His links are made of amethyst,
The finest he could buy.
There's not a thing the smithy wears
That doesn't please the eye.
Week in, week out, from morn till night,
He sees the autos come
With brakes that are not working right
And axles on the bum.
With gas, repairs, and grease and oil,
He makes a tidy sum.
He has a staff of skillful men
That number twenty-four,
Who toil from six a. m. till ten
And sometimes even more.
The Smithy never does a stroke—
He thinks that work's a bore.
The children coming home from school
Look in at the open door,
And laugh to see some city fool
Set up an awful roar
When called to pay some whopping bill
The smith has soaked him for.
He goes on Sunday to the kirk,
His mind quite free from cares,
Because his men are hard at work
With punctures and repairs,
And if the weather's fine and warm
The smith says grateful prayers.
Oiling—refilling—repairing
Onward through life he goes,
And never once despairing
So long as his income grows,
Each night the thought of someone done
Augments his sweet repose.

*—Percy Waxman, in Harper's.*

---

Jones—"Excuse me, sir, are you Sir George Compton-Keen?"

Famous Actor—"Yes, I am."

Jones—"I thought you must be—you're so like him."—Punch.

---

Maiden Aunt — "And what brought you to town, Henry?"

Henry — "Oh, well, I jus' come to see the sights, and I thought that I'd call on you first."—New York Medley.

---

"Have you ever met a bob-haired bandit?"

"Met one? I take one out every night."

---

"In Turkey a woman doesn't know her husband until after she's married to him."

"Why mention Turkey especially?"

BAKER

See the
BAKER
Long Stroke
At Tulsa
Oct. 1st to 10th

The "Baker" Mechanical Long-Stroke—the most important development for pumping wells—will be on display, in operation, at the B. & A. Specialty Company's Booth 26, West Virginia Bldg., during the exposition. Investigate this device and see for yourself how it increases production and lowers pumping costs.

"Baker" Specialties are just what their name implies—specialized appliances for oil country work which are necessary to efficient, economical operations. To operate without "Baker" Specialties is to deprive your crews of the most effective means of speeding up their work and cutting costs.

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Largest exclusive dealer—Marathon Fold West Texas oil leases.

Corporation Business a specialty. We own our offerings and can positively make delivery!

References — Mercantile Agencies, Banks of Fort Worth.

We will be at the Big Tulsa Oil Exposition. See us at Booth 18 at West Virginia Bldg.

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Catalog on Application
HEYDRICK MAPPING COMPANY
Wichita Falls, Texas

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Field Gas Testing. Analysis of oil field brines, gas minerals and oil. Sell Thermometers, Hydrometers and Laboratory Glassware
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# GUIDE FOR PURCHASERS

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Continental Supply Company
Frick-Reid Supply Co.
Gustin Bacon Manufacturing Co.
International Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Stanley Belting Corp.
Victor Balata & Textile Belting Co.

**Bit Steel—**
Central Steel Co.

**Black Diamonds—**
R. S. Patrick

**Boilers—**
Bridgeport Machine Co.
The Brownell Co.
Continental Supply Company
Coatesville Boiler Works
Frick-Reid Supply Co.
International Supply Co.
The National Supply Cos.
Oil Well Supply Co.
Republic Supply Co.
Regan Forge & Engineering Co.
Star Drilling Machine Co.
Titusville Iron Works Co.
United Iron Works, Inc.
See Oil Field Supplies and Tanks

**Boiler Mountings—**
The Lunkenheimer Co.

**Boiler Tubes—**
Monongahela Tube Co.
The Tyler Tube & Pipe Co.

**Blowout Preventer—**
Baash-Ross Tool Co.
Cameron Iron Works
Continental Supply Company
Regan Forge & Engineering Co.

**Burners—**
Continental Supply Company
Gaso Pump & Burner Mfg. Co.
Gould Burner Co.
Regan Forge & Engineering Co.
Okmulgee Boiler & Welding Wks.

**Bull Wheels—**
Continental Supply Company
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.

**Calf Wheels—**
Continental Supply Company
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.

**Carbon and Bortz—**
R. S. Patrick

**Casing—**
Continental Supply Company
Regan Forge & Engineering Co.
Republic Supply Co.
South Chester Tube Company
Superior Tube Co.
South Chester Tube Company

**Casing Pulling Machines—**
Thrift Corporation

**Casing Shoes—**
Baker Casing Shoe Co.
Bridgeport Machine Co.
Continental Supply Company
The National Supply Cos.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.

**Cement—**
Oklahoma Portland Cement Co.

**Cement Hardener—**
The Sullivan Co.

**Cement Head—**
MacClatchie Mfg. Co.

**Chain Blocks—**
Yale & Towne Mfg. Co.

**Charcoal Iron Boiler Tubes—**
The Tyler Tube & Pipe Co.

**Chemicals—**
Ward Chemical Co.

**Collapsible Rotary Bits—**
O. M. Carter

**Control Heads—**
Continental Supply Company
Southern Brass Mfg. & Plating Company

**Conservation—**
Westcott & Greis

**Core Drills—**
Allen & Courtney Oil Tool Co.
O. M. Carter
Elliott Core Drilling Co.
H. C. Smith Mfg. Co.
Spengler Core Drilling Co.

**Compressors—**
Butler Mfg. Co.
Continental Supply Company
Gardner Governor Co.
Hope Engineering & Supply Co.
Sullivan Machinery Co.
United Iron Works, Inc.

**Cordage—**
Continental Supply Company
The National Supply Cos.
Republic Supply Co.

**Crown Blocks—**
Baash-Ross Tool Co.
Continental Supply Company
International Derrick & Equipment Co.
Lufkin Foundry & Machine Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.

**Couplings—**
Continental Supply Company
Harrisburg Pipe & Pipe Bending Co.
Superior Tube Company

**Cocks, Drain—**
The Lunkenheimer Company

**Dehydrating Processes—**
Wm S. Barnickel Co.
Petroleum Rectifying Co.

**Derricks and Rigs—**
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
National Turnbuckle Derrick Co.
Parkersburg Rig & Reel Co.
Peden Iron & Steel Co.
Robertson-McDonald Lumber Co.
Superior Tube Company

**Diamond, Black—**
R. S. Patrick

**Diamond Core Drills—**
R. S. Patrick
Sullivan Machinery Co.

**Diamond Drilling Carbon—**
R. S. Patrick

**Disc Bits—**
Continental Supply Company

**Diesel Engines—**
McIntosh & Seymour Corp.

**Ditchers—**
Buckeye Traction Ditcher Co.

**Draw Works—**
Continental Supply Company
Lufkin Foundry & Machine Co.

**Drilling Cables—**
American Cable Co.
Bridgeport Machine Co.
Continental Supply Company
Frick-Reid Supply Co.
The National Supply Cos.
Peden Iron & Steel Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Star Drilling Machine Co.
Wickwire Spencer Steel Corp.

**Drill Pipe Slips—**
Baash-Ross Tool Co.
Continental Supply Company

**Drilling Machines—**
Bridgeport Machine Co.
Continental Supply Company
Parkersburg Rig & Reel Co.
Star Drilling Machine Co.

**Drill Collars—**
Baash-Ross Tool Co.
Continental Supply Company

**Drill Pipe Cutting—**
Baash-Ross Tool Co.
Houston Engineers, Inc.

**Drilling Tools—**
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Continental Supply Company

**Drilling, Diamonds for—**
R. S. Patrick

**Drill Pipe—**
Continental Supply Company
Frick-Reid Supply Co.
Republic Supply Co.
Reading Iron Co.
South Chester Tube Company

**Drilling Equipment—**
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Company
Republic Supply Co.
Star Drilling Machine Co.
Superior Tube Co.

**Drive Pipe—**
Continental Supply Company
Republic Supply Co.
Reading Iron Co.
Superior Tube Company

**Electrical Equipment—**
General Electric Co.
Westinghouse Elec. & Mfg. Co.

**Elevators—**
Bridgeport Machine Co.
Continental Supply Company
The Cunningham Co.
Dunn Mfg. Co.
LeBus Rotary Tool Works
Wilson & Willard Mfg. Co.

**Electric Equipment—**
General Electric Co.

**Engines, Diesel—**
Western Machinery Co.

**Engines, Gas—**
Bruce-Macbeth Engine Co.
Climax Engineering Co.
Continental Supply Company
Frick-Reid Supply Co.
Hope Engineering & Supply Co.
Spence Machine Co.
The Pattin Bros. Co.
Waukesha Motor Company
Western Machinery Co.

**Engines (Gasoline or kerosene)—**
Climax Engineering Co.
Waukesha Motor Co.

**Engines, Oil—**
Continental Supply Company
Frick-Reid Supply Co.
The Pattin Bros. Co.
Western Machinery Co.

**Engines, Pumping—**
Ajax Iron Works
Bessemer Gas Engine Co.
Bridgeport Machine Co.
Climax Engineering Co.
Continental Supply Company
The Brownell Co.
De La Vergne Machine Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hope Engineering Co.
Lucey Mfg. Corp.
Lufkin Foundry & Machine Co.
The National Supply Cos.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Peden Iron & Steel Co.
Republic Supply Co.
Rock Island Plow Co.
Spence Machine Co.
Southern Engine & Pump Co.
Titusville Iron Works
Waukesha Motor Company
Western Machinery Co.

**Engineers—**
David Donoghue
Foster & Reiter
Hope Engineering & Supply Co.
Lee C. Moore & Co.
North American Exploration Co.
D. T. Ring

**Fire Protection—**
Continental Supply Co.
Oil Conservation Engineering Co.

**Fish Tail Bits—**
Continental Supply Co.
Frick-Reid Supply Co.
Lucey Mfg. Corp.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.

**Floor Circle Brace—**
Continental Supply Co.
Dunn Mfg. Co.

**Fuel Oil—**
Gulf Refining Co.
Sinclair Refining Co.

**Gasoline Extraction Compressors—**
Continental Supply Co.
Bessemer Gas Engine Co.
Hope Engineering & Supply Co.
Sullivan Machinery Co.

**Gauge Cocks—**
The Lunkenheimer Company

**Gauge Hatches—**
General Machine Works
Oil Conservation Engineering Co.
Westcott & Greis

**Gauges—**
Continental Supply Co.
Oil Conservation Engineering Co.
Westcott & Greis

**Gas Engines—**
C. F. Camp Co.
S. M. Jones Co.
Portable Rotary Rig Co.
Joseph Reid Gas Engine Co.
Waukesha Motor Co.

**Gas Generators—**
Baird Supply Co.

**Gas Traps—**
American Tank Co.
Continental Supply Co.
Lorraine Corp.
Smith Separator Co.
Trumble Gas Trap Co.

**Gascline and Oil Storage Tanks—**
American Tank Co.
Butler Mfg. Co.
Continental Supply Co.
Kansas City Struct. Steel Co.
Parkersburg Rig & Reel Co.
Pelican Iron Works Co., The

**Genuine Wrought Iron Casing—**
Reading Iron Co.

**Geologists—**
Joseph L. Adler
Edwin R. Hopkins
Foster & Reiter
Heath M. Robinson
Armstrong, Price W.

**Governors—**
Gardner Governor Co.

**Grips and Clamps—**
Continental Supply Co.
J. P. Ratigan
Sargent Engineering Corp.

**Heat Exchangers—**
Brown Welding & Machine Co.
Hope Engineering & Supply Co.

**Hoists—**
Emsco Steel Products Co.

**Hose—**
Continental Supply Co.
Gustin Bacon Mfg. Co.

**Houses—**
Crain Ready-Cut House Co.

**Iron Casing—**
Superior Tube Company
South Chester Tube Company

**Jars—**
Spang & Co.

**Laboratory Equipment—**
Continental Supply Co.
Fort Worth Laboratories

**Lapwelded Steel Boiler Tubes—**
The Tyler Tube & Pipe Co.

**Leod in Oil—**
Eagle Picher Lead Co.

**Lead Wool and Containers—**
Eagle Picher Lead Co.

**Lighting Systems—**
Bridgeport Machine Co.
Continental Supply Co.
General Electric Co.
Westinghouse Elec. & Mfg. Co.

**Line Pipe—**
Continental Supply Co.
Republic Supply Co.
Reading Iron Co.

**Litharge—**
Eagle Picher Lead Company

**Lumber—**
Robertson-McDonald Lumber Co.

**Lubricators—**
The Lunkenheimer Company
Mansel Bros. Co.

**Manufacturers—**
Robinson Packer Co.

**Maps—**
Heydrick Mapping Co.

**Meters—**
Continental Supply Co.
Westcott & Greis

**Motors—**
General Electric Co.
Twin City Co.
Westinghouse Elec. & Mfg Co.

**Oiling Devices—**
The Lunkenheimer Company

**Oil Field Equipment—**
H. Rickman

**Oil Field Supplies—**
American Tank Co.
Butler Mfg. Co.
Bridgeport Machine Co.
Continental Supply Co.
The Cunningham Co.
C. C. Fetty
Frick-Reid Supply Co.
Erie P. Halliburton
Hercules Supply Co.
International Supply Co.
Jarecki Mfg. Company
Kansas City Struct. Steel Co.
Lee C. Moore & Co.
Lucey Mfg. Corp.
The Lunkenheimer Company
Robert J. Miller Co.
The National Supply Cos.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Peden Iron & Steel Co.
Pelican Well Tool & Supply Co.
Petroleum Iron Works Co., The
Republic Supply Co.
Regan Forge & Engineering Co.
Robinson Packer Co.
Smith Separator Co.
Southern Brass Mfg. & Plating Company
Superior Tube Co.
United Iron Works, Inc.
J. H. Williams & Co.

**Oil Well Casing—**
Continental Supply Co.
Frick-Reid Supply Co.
Republic Supply Co.
Superior Tube Company

**Oil Well Cementing—**
Erie P. Halliburton
Oklahoma Portland Cement Co.

**Oil Well Reamers—**
Jones Oil Well Reamer Co.

**Oil Well Shooting—**
Eastern Torpedo Company
U. S. Torpedo Co.
Zero Hour Torpedo Co.

**Overshots—**
Baash-Ross Tool Co.
Continental Supply Co.
LeBus Rotary Tool Works

**Packers—**
Continental Supply Co.
The Gulberson Corp.
Layne & Bowler
Robinson Packer Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.

**Packing—**
Continental Supply Co.
D. F. Connolly Agency
Gustin Bacon Manufacturing Co.
Frick-Reid Supply Co.
The National Supply Cos.
Peden Iron & Steel Co.
Pelican Well Tool & Supply Co.
Republic Supply Co.

**Paints—**
Continental Supply Co.
Peden Iron & Steel Co.
Sullivan Company
Themec Paint & Oil Co.

**Panel Boards—**
General Electric Co.
Westinghouse Elec. & Mfg. Co.

**Patents—**
Hardway & Cathey
Lancaster & Allwine
Jack A. Schley
Jesse R. Stone

**Perforated Casing—**
Kobe, Inc

**Pipe—**
A. M. Byers Co.
Continental Supply Co.
Frick-Reid Supply Co.
Harrisburg Pipe & Pipe Bending Co.
International Supply Co.
The National Supply Cos.
Oil Well Supply Co.
Peden Iron & Steel Co.
Reading Iron Co.
Republic Supply Co.
South Chester Tube Company
Superior Tube Company
Youngstown Sheet & Tube Co.

**Pipe Cleaning Machines—**
W-K-M Company

**Pipe Grips—**
Continental Supply Co.

**Pipe Insulation—**
Johns-Manville, Inc.

**Pipe Screwing Machines—**
Buckeye Traction Ditcher Co.
California Pipe Line Mach. Co.

**Pipe Threading Machines—**
Jarecki Mfg. Company
Standard Engineering Co.
Williams Tool Corporation

**Pipe Vises—**
J. H. Williams & Co.

**Pipe Wrenches—**
Continental Supply Co.
Dunn Mfg. Co.
The Gulberson Corp.
Trimont Mfg. Co.
LeBus Rotary Tool Works
Republic Supply Co.
J. H. Williams & Co.
Wickwire Spencer Steel Corp.

**Plumb Bobs and Seats—**
Sargent Engineering Corp.

**Portable Buildings—**
Butler Manufacturing Co.
International Derrick & Equipment Co.

**Portable Drilling Rigs—**
Bridgeport Machinery Co.
Continental Supply Co.
Lee C. Moore & Co. Inc.
Parkersburg Rig & Reel Co.
Portable Rotary Rig Co., Inc.
Star Drilling Machine Co.
The National Supply Cos.
Waukesha Motor Company

**Portable Compressors—**
Continental Supply Co.
Sullivan Machinery Co.

**Pulleys—**
Continental Supply Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.

**Pulling Machines—**
Clark Machine Co.
Continental Supply Co.
Iron King Mfg. Co.

**Pumps—**
Axelson Machine Co.
Continental Supply Co.
D & B Pump & Supply Co.
C. C. Fetty
Frick-Reid Supply Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Goulds Manufacturing Co.
Jarecki Manufacturing Co.
Lucey Manufacturing Corp.
National Transit Pump & Machine Co.
Northrup Equipment Company
Oil Well Supply Co.
Pelican Well Tool & Supply Co.
Republic Supply Co.
Southern Engine & Pump Co.
Texas Oil Pump Co.
United Iron Works, Inc.
Waukesha Motor Co.

**Pumping Engines—**
C. F. Camp Co.
McIntosh & Seymour Corp.

**Pumping Equipment—**
General Electric Company
Northrup Equipment Company
Shaffer Specialty Co.

**Pumping Powers—**
American Well Works Co.
Continental Supply Co.
C. C. Fetty
Frick-Reid Supply Co.
International Supply Co.
Jarecki Mfg. Co.
Jensen Bros. Mfg. Co.
Kansas City Hay Press Mfg. Co.
Spence Machine Co.

**Regulators—**
Westcott & Greis

**Refined Products—**
Gulf Refining Co.
Humble Oil & Refining Co.
Magnolia Petroleum Co.
Sinclair Refining Co.
Texas Co.

**Recorders—**
Fort Worth Laboratories

**Refinery Equipment—**
American Tank Co.
Butler Mfg. Co.
Continental Supply Co.
Oil Conservation Engineering Co.
Petroleum Iron Works Co., The
Republic Supply Co.
Smith Separator Co.
Titusville Iron Works
United Iron Works, Inc.
Westcott & Greis
Wyatt Metal & Boiler Works

**Rig Irons—**
Bradford Rig & Reel Co.
Continental Supply Co.
International Supply Co.
Lee C. Moore & Co., Inc.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Co.

**Rope Socket Metal—**
Eagle Picher Lead Co.

**Rotaries—**
International Supply Co.

**Rotary Fish Tail Bits—**
Continental Supply Co.
Multi-Cutr Rotary Bit Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.

**Rotary Rock Bits—**
Continental Supply Co.
Hughes Tool Co.
Reed Roller Bit Co.

**Safety Casing Clamps—**
Shaffer Specialty Co.

**Sand Reel Supports—**
Shaffer Specialty Co.

**Screen Casing—**
Kobe, Inc.

**Separators—**
American Tank Co.
Butler Mfg. Co.
Continental Supply Co.
Lorraine Corp.
M. & V. Tank Co.
Smith Separator Co.
Trumble Gas Traps

**Specialty Manufacturers—**
Shaffer Specialty Co.

**Steel Bull Wheels—**
Bradford Rig & Reel Co.
McIntosh & Seymour Corp.

**Structural Steel—**
Butler Mfg. Co.
United Iron Works, Inc.

**Steel Derricks—**
Continental Supply Co.
Emsco Steel Products Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.
Superior Tube Co.

**Steel Crown Blocks—**
Continental Supply Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.
Superior Tube Co.

**Steel Storage Tanks—**
American Tank Co.
Butler Mfg. Co.
Continental Supply Co.
Petroleum Iron Works Co., The

**Still Covering—**
Johns-Manville, Inc.

**Strainers—**
Continental Supply Co
Emsco Steel Products Co.
Howard Smith Company
Kobe, Inc.
Layne & Bowler Co.
J. H. McEvoy & Co.
Pelican Well Tool & Supply Co.

**Stuffing Boxes—**
A. W. Fawcett

**Special Steels—**
Central Steel Co.

**Steel Tanks—**
Bradford Rig & Reel Co.

**Sucker Rod Lines—**
Continental Supply Co.

**Sucker Rod Elevators—**
The Cunningham Co.

**Sucker Rod Hangers—**
Lorraine Corp.
Robinson Tool Co.

**Sucker Rod Hooks—**
The Cunningham Co.

**Sucker Rod Rotors—**
Sargent Engineering Corp.

**Sucker Rod Sockets—**
Baird Supply Co.
Brown Welding & Machine Co.
Continental Supply Co.
The Cunningham Co.
Shaffer Specialty Co.
Western Supply Co.

**Sucker Rods—**
Axelson Machine Co.
Continental Supply Co.
Columbus Sucker Rod Co.
D & B Pump & Supply Co.
Dunn Mfg. Co.
Frick-Reid Supply Co.
S. M. Jones Co.
The National Supply Co.
Oil Well Supply Co.
J. P. Ratigan
Republic Supply Co.

**Swabs—**
Continental Supply Co.
The Cunningham Co.
Shaffer Specialty Co.

**Swing Joints—**
General Machine Works
Oil Conservation Engineering Co.
Westcott & Greis

**Tank Bolts—**
Continental Supply Co.

**Tanks—**
American Tank Co.
Butler Mfg. Co.
Black, Sivalls & Bryson
Continental Supply Co.
The Brownell Co.
Kansas City Struct. Steel Co.
Maloney Tank Co.
M. & V. Tank Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works Co., The
United Iron Works
Wyatt Metal & Boiler Works

**Tank Deadwood—**
Robertson-McDonald Lumber Co.

**Tank Equipment—**
Continental Supply Co.
Johns-Manville, Inc.
Oil Conservation Engineering Co.
Parkersburg Rig & Reel Co.
Westcott & Greis

**Tank Insulation—**
Johns-Manville, Inc.

**Tank Roofs—**
Johns-Manville, Inc.

**Temper Screws—**
Burns Tool Co.

**Thermometers—**
Continental Supply Co.
Fort Worth Laboratories

**Timbers—**
Robertson-McDonald Lumber Co.

**Tongs—**
Bridgeport Machine Co.
Continental Supply Co.
Dunn Mfg. Co.
Gulberson Corporation
Howard Smith Company
LeBus Rotary Tool Works
Pelican Well Tool & Supply Co.
J. H. Williams & Co.
Wilson & Willard Mfg. Co.

**Tool Joints—**
Baash-Ross Tool Co.
Bridgeport Machine Co.
Continental Supply Co.
Emsco Steel Products Co.
Hughes Tool Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.

**Tools (Fishing and Drilling)—**
Acme Fishing Tool Co.
Bridgeport Machine Co.
Brown Welding & Machine Co.
Continental Supply Co.
Frick-Reid Supply Co.
Houston Engineers, Inc.
Hughes Tool Co.
International Supply Co.
Oil Well Supply Co.
Peden Iron & Steel Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Spang & Co.
Star Drilling Machine Co.
Sullivan Machinery Co.

**Toothless Slips—**
LeBus Rotary Tool Works

**Tractor Winch—**
C. F. Camp Co.
Rock Island Plow Co.
Twin City Co.

**Traveling Blocks—**
Baash-Ross Tool Co.
Continental Supply Co.
Lufkin Foundry & Machine Co.
Regan Forge & Engineering Co.

**Tret-O-Lite—**
W. S. Barnickel & Co.

**Trucks—**
Wichita Falls Motor Co.

**Tubing Catcher—**
Continental Supply Co.
Dunn Mfg. Co.
Gulberson Corporation

**Tubing Lines—**
Continental Supply Co.

**Tubing Protectors—**
Mexia Planing Mill Co.

**Tubing—**
Continental Supply Co.
Republic Supply Co.
Reading Iron Co.
South Chester Tube Company

**Underreamers—**
Bridgeport Machine Co.
Continental Supply Co.
Wilson & Willard Mfg. Co.

**Vacuum Pumps—**
Continental Supply Co.
Sullivan Machinery Co.

**Valves—**
Bradford Motor Works
Continental Supply Co.
Darling Valve & Mfg. Co.
The Charles N. Hough Mfg. Co.
Ludlow Valve Mfg. Co.
The Lunkenheimer Company
Norris Bros.
Northrup Equipment Company
The Wm. Powell Co.
Smith Separator Co.
Sour Lake Machine Co.
Southern Brass Mfg. & Plating Company
Texas Oil Pump Co.
Westcott Valve Mfg. Co.

**Valves, Gate—**
The Lunkenheimer Company

**Valves and Fittings—**
Continental Supply Co.
Darling Valve & Mfg. Co.
D & B Pump & Supply Co.
Jarecki Mfg. Company
Ludlow Valve Mfg. Co.
Lufkin Foundry & Machine Co.
The Lunkenheimer Company
The National Supply Cos.
Peden Iron & Steel Co.
The Wm. Powell Co.
Pittsburgh Reinforced Brazing & Machine Co.
Republic Supply Co.
United Iron Works

**Vapor Tight Insulated Tank Tops—**
Johns-Manville, Inc.

**Vents—**
Westcott & Greis
Oil Conservation Engineering Co.

**Walking Beams—**
Continental Supply Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.

**Welding and Cutting Equipment—**
Continental Supply Co.

**Working Barrels—**
Axelson Machine Co.
Continental Supply Co.
D & B Pump & Supply Co.
Howard Smith Company
Northrup Equipment Company
Republic Supply Co.
The Charles N. Hough Mfg. Co.
Southern Brass Mfg. & Plating Company
Texas Oil Pump Company

**Water Gauges—**
Continental Supply Co.
J. E. Shaffer Company
Smith Separator Co.

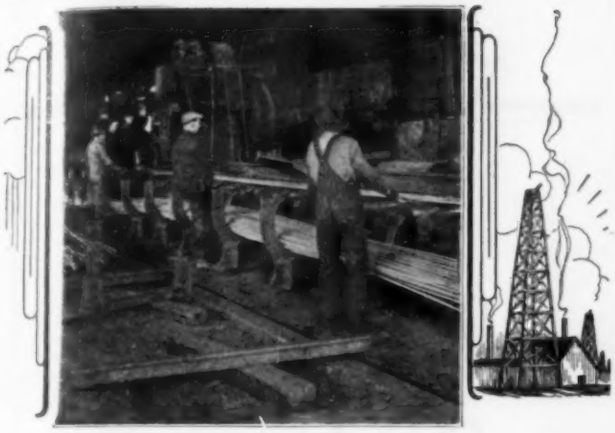
**Water Cans—**
Continental Supply Co.
H. P. Gott Mfg. Co.

**Water Softening Compound—**
Ward Chemical Co.

**Wire Rope—**
American Cable Co.
Bridgeport Machine Co.
Continental Supply Co.
International Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
The National Supply Cos.
Wickwire Spencer Steel Corp.
Williamsport Wire Rope Co.

**Wire Rope Fittings—**
American Cable Co.

**Wire Rope Slings—**
American Cable Co.



# INSPECTING
## SHEFFIELD SUCKER ROD BARS

The above illustration shows the inspection and shearing into Sucker Rod lengths of Sheffield Sucker Rod Bars.

Each step in the manufacture of Sheffield Sucker Rods is carefully checked by steel experts that know. The good properties of the special analysis steel must be retained—and that it is retained is conclusively proven by the fact that Sheffield Sucker Rods are standing up under hard service where other rods have failed. (No Sheffield Sucker Rod has ever in actual service broken at the pin).

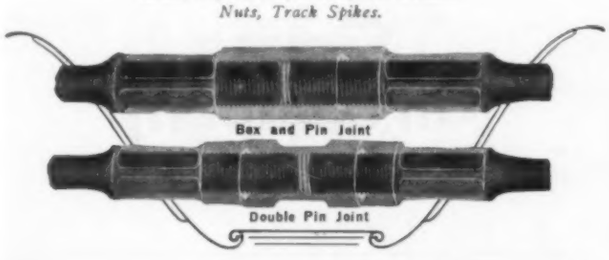
The ever-increasing use of Sheffield Sucker Rods by Oil Producers everywhere is an indication of the great economy their use effects.

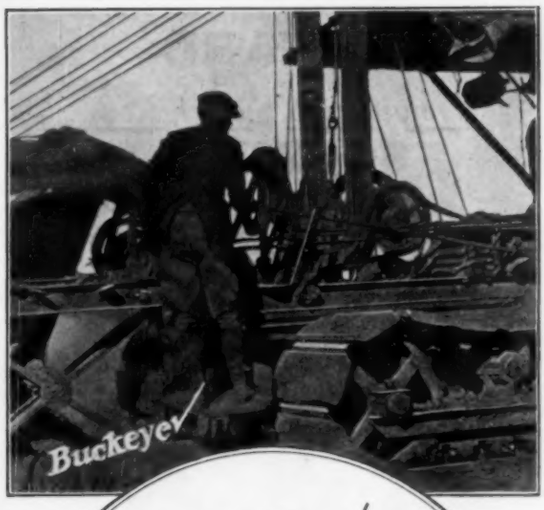
## SHEFFIELD SUCKER RODS

are manufactured in both the Box and Pin and Double Pin types. Three sizes ⅝", ¾" and ⅞" are available. Large stocks are on hand for immediate shipment.

**SHEFFIELD STEEL MILLS**
KANSAS CITY BOLT & NUT CO.
KANSAS CITY, MO.

*Manufacturers of Sheffield New Billet Reinforcing Bars, Rail Steel Reinforcing Bars, Open Hearth Steel Merchant Bars, Merchant Iron Bars, Sheffield (Copper Bearing) Steel Blue Annealed Sheets, Sheffield Sucker and Pull Rods, M. C. B. Car and Locomotive Forgings, Oil Field Forgings, Machine and Carriage Bolts, Lag Screws, Rivets, Hot Pressed Nuts, Track Spikes.*




Trench Dug at
# 1/3
the Cost of by Hand

—and some Buckeye owners say we're far too modest in that statement.

One tells us that his Buckeye cuts in soil where hand digging would be impossible.

Hard shale—tangles of thick wiry roots—sand—or clay—

It's all the same to Buckeyes—they keep right on digging.

If you've never owned a Buckeye send for the booklet "Pipe Line Construction Records." It's full of facts from users.

**The Buckeye Traction Ditcher Company**
FINDLAY, OHIO

Manufacturers of Pipe-Line Trench Excavators and Pipe Screwing Machines

*There's a Buckeye Sales and Service Office Near You*

BUILDERS OF TRENCH EXCAVATORS FOR 30 YEARS

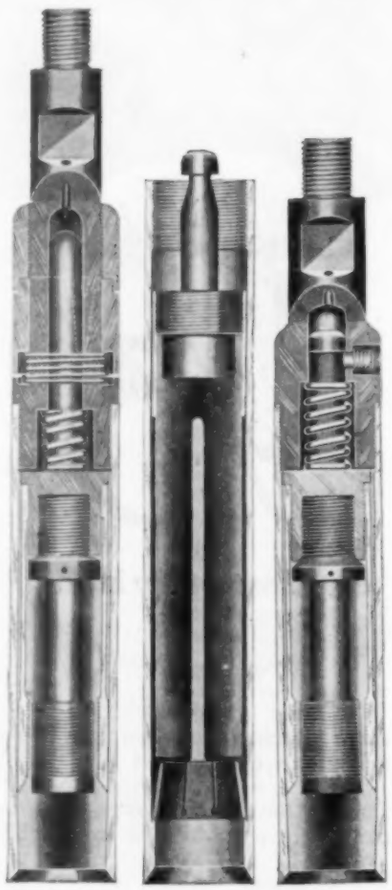
*Say you saw it in The OIL WEEKLY*

# LEONARD

*Combination Sucker Rod*

## SOCKETS

Made up in a type to fish out any part of the broken rod in the tubing, and upper or lower valves in the working barrel.



"Trip and Bull Dog Type"

Special barrel for 1 9/16" and 1⅝" Couplings in 2" Tubing.

"Bull Dog Type"

A fishing tool that is run in the hole set for the job, the trip releasing the slips for the catch only after the ROD, BOX or COUPLING fished for has entered the Socket.

Can be run in on wire line instead of Sucker Rods in deep hole territory to speed up pumping well fishing jobs.

Your Supply Store Has It.

**BAIRD TOOL WORKS**

*"Pumping Well Fishing Tool Specialists"*

Tulsa, Okla.

SEE US AT THE EXPOSITION

SIMMS OIL CO.

**Producers**
of crude petroleum
in North Central Texas
Louisiana, Arkansas,
and Oklahoma
*Production over 12,000 Barrels Daily*

**Refiners**
of crude petroleum
in North Texas.
Refinery at Dallas.
*Capacity 4500 Barrels Daily.*

**Marketers**
of crude petroleum
and its products—
specializing in
***Simms Gasoline***
***and Simms***
***Smackover Crude***

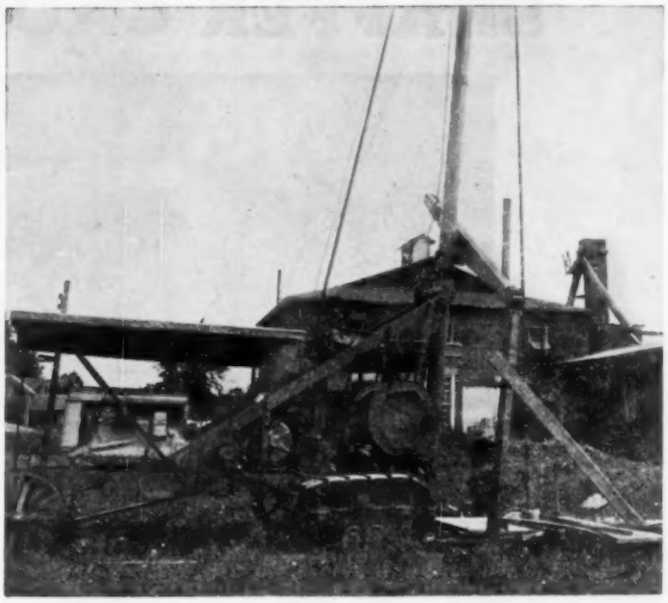
**Simms**
**Oil Company**
Dallas, Texas

For Shallow Drilling

# THE OHIO CLEANER

**is equipped with Simple, Efficient Spudding Device**

*On display on lot C at Internat onal Petroleum Exposition*



## The Traction Machine Company

North Baltimore, Ohio

## Built to stand the Punishment of the Oil Field Country

WICHITA FALLS MOTOR COMPANY

J. A. KEMP, PRESIDENT

WICHITA FALLS, TEXAS

*Say you saw it in The OIL WEEKLY*

# SHAFFER GAUGE COCK

## YOU CAN'T GET BURNT WITH A SHAFFER

*Either Your Arm Or Your Pocketbook*

Extra combination wheels (Made of Babbitt with fibre seat) 25c each at any supply store.

Buy a set from your supply store and you'll wonder how you ever got along without them.

Made in two sizes ½ or ¾ inch

**Price $2.25**

**ALL PARTS ARE INTERCHANGEABLE**

Five of the Leading Boiler Manufacturers have adopted Shaffer Gauges as STANDARD EQUIPMENT on their new boilers.

"THERE'S A REASON"

## J. E. SHAFFER COMPANY

**316 Mid-Continent Bldg.** **Tulsa, Oklahoma**

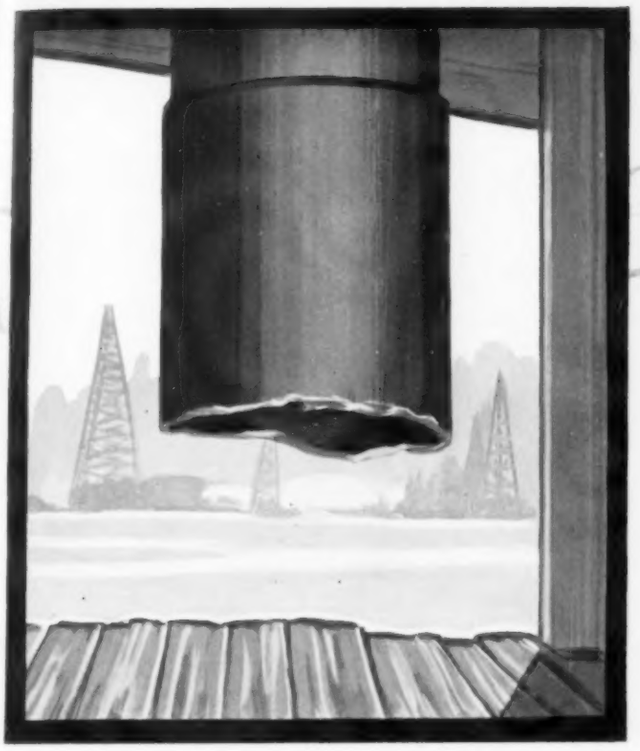
# WELCOME

**As Tulsa's oldest bank, we welcome the delegates and visitors to the Oil Exposition and invite you to take this opportunity to inspect our modern building and equipment.**

**It will be our pleasure to acquaint you with the service which has built this institution.**

The
First National Bank of Tulsa, Oklahoma

*"Tulsa's Oldest Bank"*



# Too Hard?
# Too Soft?
# Who Knows?

## Anyway the Pipe Parted

The time to protect your properties from such an accident as this is **before** it happens, not afterwards, when a fishing job has shown you that ordinary, unbranded couplings cannot be depended on in an emergency.

If too hard, vibration soon shatters them. Too soft, and you're up against stripped threads or a crooked hole.

They must be just right—and "just right" means Harrisburg.

Harrisburg couplings are made from double strength oil field steel—forged seamless, without a weld or weakness. Perfect threads insure accurate stabbing. Correct taper gives the tightest grip without crushing. Harrisburg couplings will not crack, strip nor gall, and have no piping to develop leaks.

Progressive operators are fast adopting Seamless Steel Tubing with Seamless Steel couplings; and because Harrisburg has for years proven its supremacy in this field these operators naturally specify the coupling known for dependability—Harrisburg.

*Stocked and sold by Leading Supply Houses*

**HARRISBURG PIPE & PIPE BENDING CO.**
**HARRISBURG, PENNA.**

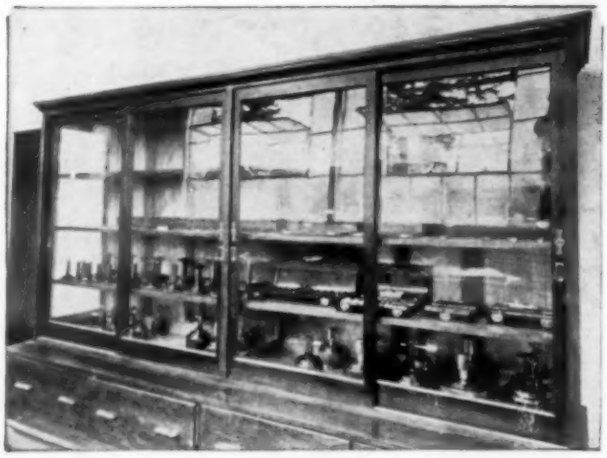
Harrisburg Pipe & Pipe Bending Co. of Texas, Inc.
Houston, Texas

Harrisburg Supply Co., Tulsa, Okla.

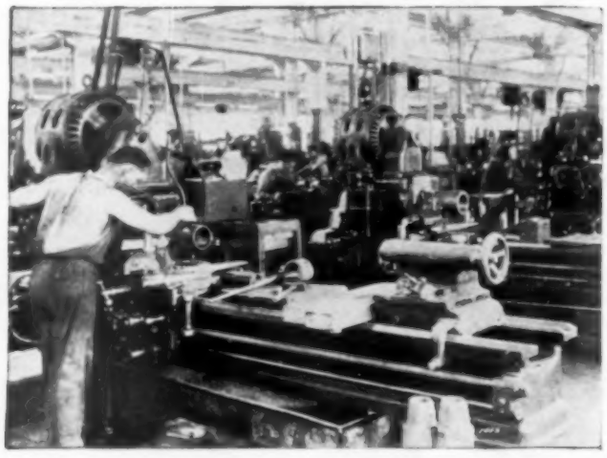
# HARRISBURG
*Forged Seamless Steel Couplings*

# The way we Produce a Better Tool Joint 4th

# Be Sure of Interchangeability



Gauge Cabinet



Fitting Half Joint to Gauge

"Every Joint an Interchangeable Joint" is a positive guarantee made by the Hughes Tool Company for

## HUGHES TOOL JOINTS

To be able to do this an elaborate system of Master Gauges is used to perpetuate the "Standard Working Gauges", the latter being frequently checked with the Masters.

When finished, each half of a Hughes Tool Joint is fitted to an accurate gauge instead of fitting the two halves together. Every thread is gauged at least three times.

---

*At Your Supply Store*

# HUGHES TOOL COMPANY

*Branch Plants*
LOS ANGELES, CALIF.
OKLAHOMA CITY, OKLA.

MAIN OFFICE AND PLANT
HOUSTON, TEXAS

*Export Office*
NEW YORK CITY